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ABSTRACT

A 5-year study was conducted to determine cultural behavior factors affecting community development. The site was a 40-acre tract within the community of Guadalupe, Arizona, and the principal subjects were 79 Yaqui Indian families. Thirty-three other Indian families (non-Yaqui) and 13 Mexican-American families also resided in the tract, producing observable cultural interactions. Experimentation was initiated through the Yaqui religious hierarchy, this being their only functional leadership structure. Principles of operant psychology and applied and cultural anthropology were utilized. Areas of development selected by the residents were recreation, adult education, and house construction. The Yaqui showed increased interest in community development, and 2 of the men exhibited significant leadership ability. Major factors affecting the work were a lack of leadership structure outside of their religion, cultural differences between participants, a reluctance to accept outside assistance, and a lack of motivation. [Not available in hard copy due to marginal legibility of original document.] (BD)

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VARIABLES INFLUENCING BEHAVIOR IN INDIGENOUS NON-WESTERN CULTURES

J. A. Jones

Final Progress Report
1 July 1963 - 30 June 1968
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DEPARTMENT OF ANTHROPOLOGY

ARIZONA STATE UNIVERSITY

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ABSTRACT

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From July 1, 1963 through June 30, 1968 research was carried out among the Yaqui Indians of Guadalupe, Arizona, in an attempt to delineate variables maintaining particular cultural behavior. An enclave called the Forty Acres was selected for programming community-selected activities. These included recreation, adult education and house construction.

It was necessary to develop responsible local secular leadership for the successful operation of this project. Therefore, we by-passed an established collaborationist group and directly contacted the indigenous religious hierarchy which represented the only extant native power structure available around which local support could be generated.

ACKNOWLEDGMENTS

Many people have contributed to the research reported here. Listed as Co-Investigators or Research Associates, during one or another stage of the five year project, were Arthur Bachrach, Charles Ferster, Israel Goldiamond, Lilian Jones, John Kunkel, Stanley Pliskoff and Reynold Ruppe'. Special thanks must be tendered Israel Goldiamond for his tutorial interest in the principal investigator, to Lilian Jones for ordering great quantities of data so that they became useful, and to Reynold Ruppe' for housing the project in his Department of Anthropology at Arizona State University.

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situation; Hank Schrieber designed and constructed the soil cement brick machine; Dow Ben Roush undertook to represent the Yaqui as legal advisor in a number of ventures. Their help was appreciated at the time, and it is a pleasure to acknowledge it.

Mary Rasmussen, secretary for the project, and Helen Sherer, editorial assistant, helped cast the final report, and were forced by circumstances to read a number of versions of it. Their patience and efficiency are apparent, to some extent, in the final draft.

INTRODUCTION

Cultural pluralism in the United States has been viewed as both the main strength and the primary weakness of national life, depending on the viewer's frame-of-reference. Both positions consider the problem of communication with the dominant society to be the one most significant for the healthy existence of sub-cultural groups. In the first instance, cultural pluralism should enrich national life. This is not possible unless mechanisms exist through which the dominant society can contact the enclaved groups. In the second, the procedures for extending technological advances developed in the dominant society to sub-cultural groups depends on efficient communication.

These two approaches to pluralism find adherents in two different facets in our society. Members of sub-cultural groups are presently emphasizing self-identity and ethnic pride as the important factors. Political activism is the avenue by which these groups hope to achieve a parity with the dominant society in obtaining creature comforts within a pluralistic setting.

The dominant society wants to standardize the sub-cultural groups. Separatism is acceptable only if it can be made self-supporting, and if the behavior patterns of the enclaves do not disrupt those in the dominant society. The approach which characterizes this position is based on the caretaker model. Agencies of the dominant society operate on the fringes of the enclaves through receptive individuals. The agencies delineate the problem areas from the point-of-view of the dominant society, and dictate the solutions from the same position.

An evaluation of these two approaches is relevant for the evaluation of the community development model presented in this report.

Social Adversary Models

The social arrangements which control the relationships between individuals, and groups of individuals evolve as the circumstances which gave rise to them change. If the social control mechanisms which are used to give social systems stability became oppressive, it is possible that sentiment may develop for rapid change among the people against whom the controls are directed. Evolution may be replaced by revolution.

Those that operate the mechanisms may increase their harshness in the face of social unrest, contributing to further alienation of enclaves within the society. This unfortunate action provides for further reaction to the point of possible destruction of the system itself. Examples may be found in the university systems throughout the world. Student protest against authoritian administration trigger more authoritarianism. Where initially only handfuls of students are involved, thousands became identified with protest movements as it becomes evident that there is more to protest about.

Fear, which arises in the dominant society because of the new militancy in the enclaves, dies down as the militancy becomes familiar. Militancy has shock value only until procedures have been developed to deal with it. The new procedures may be distasteful in themselves, but if they are effected only in response to militancy, the responsibility for their use may be placed on the citizens of the enclave by the dominant society. Thus it is possible to blame the leaders of the black ghetto for the deaths of blacks killed by the National Guard troops mobilized to contain rioting. This is not an evaluation of the justice of the charge, but an analysis of how it is reached.

It is necessary to escalate militancy if its shock value on the dominant society is to be maintained. Protest must contain a possibility of threat that ordinary containment procedures will be inadequate to handle if protest is to be effective in social change. Each victory won by militancy makes the price of the next victory higher because of the necessity of escalation, and increased harshness in containment.

Ultimately the use of militancy as the primary approach to political action will destroy the possibility of the effective use of other methods. In time no serious political candidate will be able to identify with the goals of particular enclaves because of the general disapproval in the dominant society of the violence which characterizes the struggle to reach the goals. Militancy has a relatively limited effect as a tool for social change, therefore, because its end result is either social destruction or social isolation. Either the dominant society will be destroyed by the increasing violence, or the enclave will be sealed off from the dominant society.

The best organized political activism approach which has developed over the last few years is that of the Industrial Areas Foundation under the direction of Saul Alinsky. I. A. F. has a model which requires a monopoly of power within a community for full effectiveness. Other agencies purporting to speak for the enclave must be destroyed or assimilated for a power monopoly to be organized. Militancy becomes an aim in itself to create self-consciousness among the enclave's citizens, and welfare goals are opportunistically chosen where militancy may be directed most dramatically (Alinsky 1945).

The Presbyterian church in Phoenix fell heir to a 100 acre trust in Guadalupe, an enclave in the Phoenix Metropolitan area, and brought an I.A.F. man in to organize it in 1964. Following the Alinsky model, the I. A. F. organization (called the Guadalupe Organization in its charter) took the following steps.

1. Registered everyone in the area to vote in the 1964 Democratic primary,

2. Forced a polling station to be set up for the 1964 General elections within Guadalupe,

3. Attacked all private social agencies in the settlement, and either drove them out, or restricted their movements:

    a. Careers for Youth was pushed out.
    b. The Presbyterian church has had its authority limited to church affairs.
    c. The Catholic church has combined its program with that of G.O.

4. Attacked social agencies on the grounds of inadequate performance:

    a. Forced the school board to upgrade facilities by attending public meetings of the board and complaining.
    b. Forced appointment of a Mexican principal on death of the old WASP principal.
    c. Requested appointment of Deputy Sheriff for local crime control with much publicity.
    d. Pushed the Maricopa County Road Department into oiling local streets.
    e. Fought LEAP, a Phoenix city-sponsored holding corporation for caretaker agencies, successfully for independent control of G.O. funds from O.E.O.

5. Tried to drive out or take over V. I. D.:

a. Picked up leaders as soon as they became visible on V. I. B. programs, and paid them in comparable jobs for G.O.
b. Adopted programs made popular by V. I. B. as soon as popularity was evident: baseball, adult education, house construction -- in same order as developed by V. I. B.
c. In Yaqui crisis situations within the family, moving in to forestall V. I. B. participation as long as public attention was engaged: death in a family, destruction of home by fire, etc.
d. Formed an advisory committee at Arizona State University of University professors who were requested to bring pressure on V. I. B. to conform to G. O. leadership.

Social Caretaker Models

Private charity and local public institutions failed to solve the social problems that arose during the depression of the 1930's. Federal caretaker agencies were created to handle the emergencies. The services which they dispensed have become a fixed part of our national life.

During the succeeding three decades the setting in which the caretaker agencies have functioned has changed, and they are no longer adequate to take care of the problems they were created to solve. There is some evidence that they have contributed to the growing spirit of unrest among the people they serve as the agencies have become larger and more structured.

Public caretaker agencies are financed and staffed by tax-paying middle class Americans. Their goal has always been to bridge the gap between under-producers and over-producers. Since the cost is born by over-producers, pressure has been exerted to keep the cost down. Inadequacies in the services are increasingly evident. Problems are delineated from the point-of-view of the middle class taxpayers, and solutions to those problems are dictated by the resistence of this group to continuance of high-cost support.

Many contemporary programs which are called community development are in reality attempts to reform the caretaker models. One of the best known of these has been developed by Dr. Gerald Caplan and his associates at the Harvard School of Public Health Community Mental Health Program. In his book, *Principles of Preventative Psychiatry* (1964: 66-67), Dr. Caplan suggests that psychiatrists are politically naïve in relationship to other community leaders and that psychiatrists should lend themselves to righting small discrete present wrongs rather than concentrating on planning. His model is a clinical model. It has a social welfare orientation. To a psychiatrist a community is sick if it demonstrates high chronic alcholism, high rates of crime and juvenile delinquency, high incidence of broken families and child neglect, poor nutrition patterns, high infant mortality rates, poor sanitation, overcrowding and large numbers of people on welfare.

The procedure that the Caplan students use is to intervene in the caretaker agencies with the goal of better preparing the welfare workers to handle the problems which they encounter. The assumption is that the problems encountered may sometimes be more difficult of solution than the limited training of the social worker makes possible.

It is also a tacit assumption that the caretaker model is an efficient one with which to deal with the social problems. Using the caretaker model it is necessary to view problems from the point-of-view of the dominant society since the caretaker agencies are effective only within a special limited sense. They serve the dominant society as an avenue of contact with sub-cultural groups and either work to standardize the sub-cultural groups within boundaries acceptable to the dominant society or to keep the problems inherent in the nature of cultural pluralism from becoming disruptive. This is not designed to institute social change. The goal is maintenance of the status quo.

Using exactly the same orientation, attributed here to Caplan, the author spent 4 years working with the people from Jemez Pueblo, an Indian community in New Mexico.*

My approach to this Pueblo was that of an individual motivated by a desire to help members of the community establish fruitful lines of communication to the dominant society. My clients were those whose lack of understanding of the ways of white culture had resulted in some personal crisis. As a go-between, I attempted to explain the positions of the two cultures in conflict situations so that compromises might be worked out.

During a period of three years between 1957 and 1961 I dealt with Bureau of Indian Affiars officials, Federal Court and Probation officers, County Welfare, the County Sheriff, City Police, and private business who had entered into the sale of cars and electrical appliances on term contracts all as a spokesmen for members of the Pueblo.

I arranged for medical treatment for non-English speakers. I set up operations in the County Indian Hospital, and provided post-operation visits by members of patient's families. I purchased glasses for near-sighted children.

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* Financed in part by a "Small Grant" from the Natural Institutes of Health

I worked with social workers responsible for services in the Pueblo and helped set up welfare payments for indigent families.

I bailed young men out of jail charged with drunken driving. I helped repair their automobiles.

I testified in a U. S. Federal Court on a murder case, explaining the circumstances of the incident within the Indian frame-of-reference at the request of the village council, whose prohibitions against revealing Pueblo customs mitigated against their taking a more positive role.

I acted as a marriage counselor when asked for advice, and mediated between parents and children to bridge the generation gap.

I used my home as a half-way house, to acquaint young Indians who wished to move into the dominant society with the behaviors expected in that context.

In short, I spent approximately three years trying to make a clinical model work. At the end of that period, my accomplishments were trivial so far as setting new patterns of interaction between the dominant society and members of the Pueblo. Most of their problems were one-shot situations precluding their using the knowledge gained on future occasions. In the few reoccurring conflict situations I was called in again and again as a trouble-shooter.

My failures occurred when the circumstance required political pressure rather than knowledge. My successes were learning situations for me; not for them.

More important than the good I was able to do, was the damage I inadvertantly did to individuals. The clinical approach created dependency on the practitioner. Healthy social interaction requires reciprocity. There was very little that these people could do for me compared to what I could do for them. Some individuals became rapidly accustomed to the dependency relationship and exploited it. Others found it very uncomfortable, and became either hostile or crushed. The man for whom I did the most, because he had the best potential for growth, finally resolved the tension our relationship produced by developing a drinking problem. I partially salvaged him as a person by arranging for him to get a job through other people where his dependency was not so apparent.

This experience was salutary for me. It became increasingly obvious that social change has to be brought about through voluntary action on the part of the community involved. I learned that doing good was a short term approach not designed to have more than short term results. Furthermore, the good I was able to do, welcome as it was in the immediacy of crisis, often had deleterious side effects.

Where the clinical model is useful in guided social change is in establishing rapport. Evidence of friendly feeling is manifest in help in crisis situations. The disinterested professionalism characteristic of most experienced social therapists is completly wrong, however. Help should be supportive, warm, interested. Given in this way, therapy becomes an important adjunct to community development. It is only when it represents the total program that is becomes a part of a pattern of dependency that is self-defeating. Community development tries to change the pattern of dependency.

Community Development Models

Community development is possible only when the developers act as catalysts rather than initiators of social change. Decisions must be left in the hands of the people living in the community, rather than being imposed by representatives of another society.

Established caretaker agencies are territorial in behavior; their personnel resent interference with accustomed practices. Attempts to work through established agencies are unlikely to produce results significant for community development because of this limitation.

Anthropology is the discipline ideally suited to the development of effective procedures for community development. It is the only field in the social sciences which regularly studies non-Western culture. Anthropologists operate outside of the commitment to the standard middle class society, and consequently the caretaker agencies, characteristic of the other social sciences. The question of social utility is one which anthropology has not considered with the seriousness it deserves, however. Boas and his students cast the field in an historical rather than an operational posture. Whether or not anthropology was useful was a consideration in which none of the early practitioners had very much interest.

During the depression era of the 1930's some anthropologists found work as rural sociologists for the U. S. Department of Agriculture, and others made surveys of conditions on American Indian reservations for

John Collier and the Bureau of Indian Affairs. The term "acculturation", referring to the results of the impact of an industrialized society on a technologically simple one, came into use. With it developed an interest in the processes of acculturative change, and an awareness of the possibility of easing the associated grosser trauma.

This was the situation at the beginning of World War II. Anthropologists became active as consultants on Africa and the Pacific Islands during the war, partly because no one else in the United States knew much about these regions, and the need for dependable information was critical. This was an unexpected dividend, but one the field is still uncomfortable about. Broad use of information, previously gained in a trust relationship, was made without permission of the native societies.

When the returning World War II veterans flooded the universities under the G. I. bill, the field of anthropology was changed. These new students spoke in terms of social conscience, and were activists in relation to social problems. Some of them banded together to form the Society for Applied Anthropology. The moral question of forced assimilation versus self-determination for the natives of primitive societies has been thoughtfully and sometimes passionately debated. A major university, Cornell, developed an entire graduate program in anthropology around the problems inherent in guided culture change.

In the past few years there has developed a strong suspicion among most anthropologists towards operational anthropology. Funds available for work in this area originate commonly with the Federal Government. The trust relationship between anthropologists and members of non-Western cultures which develop in the course of anthropological research are considered inviolable. Where the anthropologist manipulates a non-Western society as an agent of Western society, using information made available in this trust relationship, it is difficult to avoid the charge of betrayal.

Community development, if ethically undertaken, helps people in non-Western cultures to achieve their own legitimate aspirations. In the five-year pilot study of community development on a Yaqui Indian enclave in Guadalupe, Arizona, we have worked for the Yaqui, and not for the dominant society.

Our research has drawn on methods and procedures developed in four separate areas:

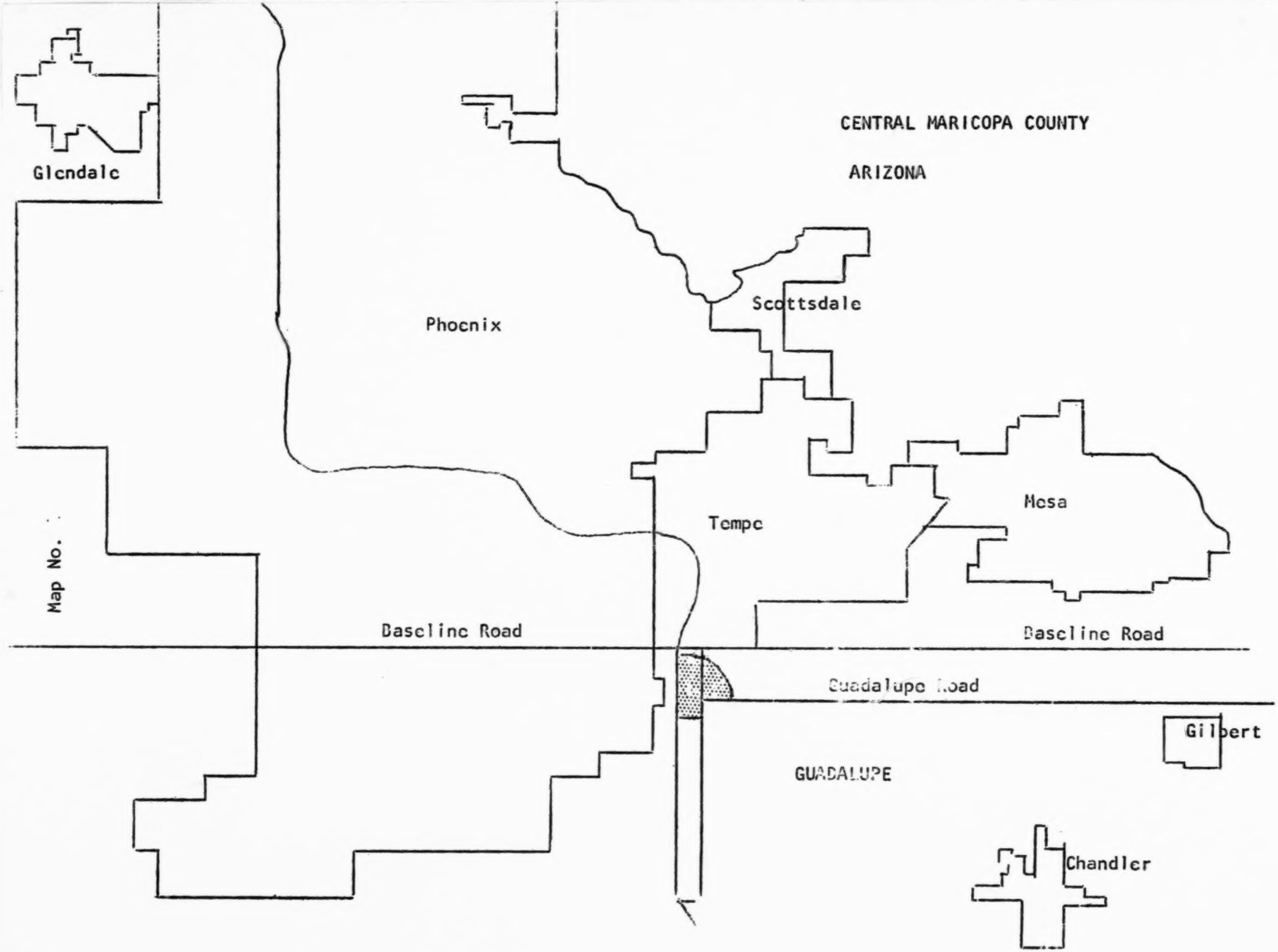
a. Historical documentation of non-Western cultural contact experiences by missionaries, military personnel and traders. Varying degrees of success by non-anthropologists has been reported for several hundred years. Different patterns of interaction are evident from the reports, and some correlation can be approximated between patterns of field operation and results from the reports.

b. The laboratory method of experimental psychology. Procedures have been developed in psychology laboratories designed to control the behavior of individuals under specific conditions by altering consequences of that behavior. We have applied some of these procedures to groups of individuals in a free society.

c. The field approach in cultural anthropology. Certain standard techniques have been developed which are generally valid for the study of all village societies. These involve the collection and analysis of data on human behavior and the construction of normative patterns of social interaction. We have used these techniques to determine key institutions within the culture that are responsible for the social control of individual behavior.

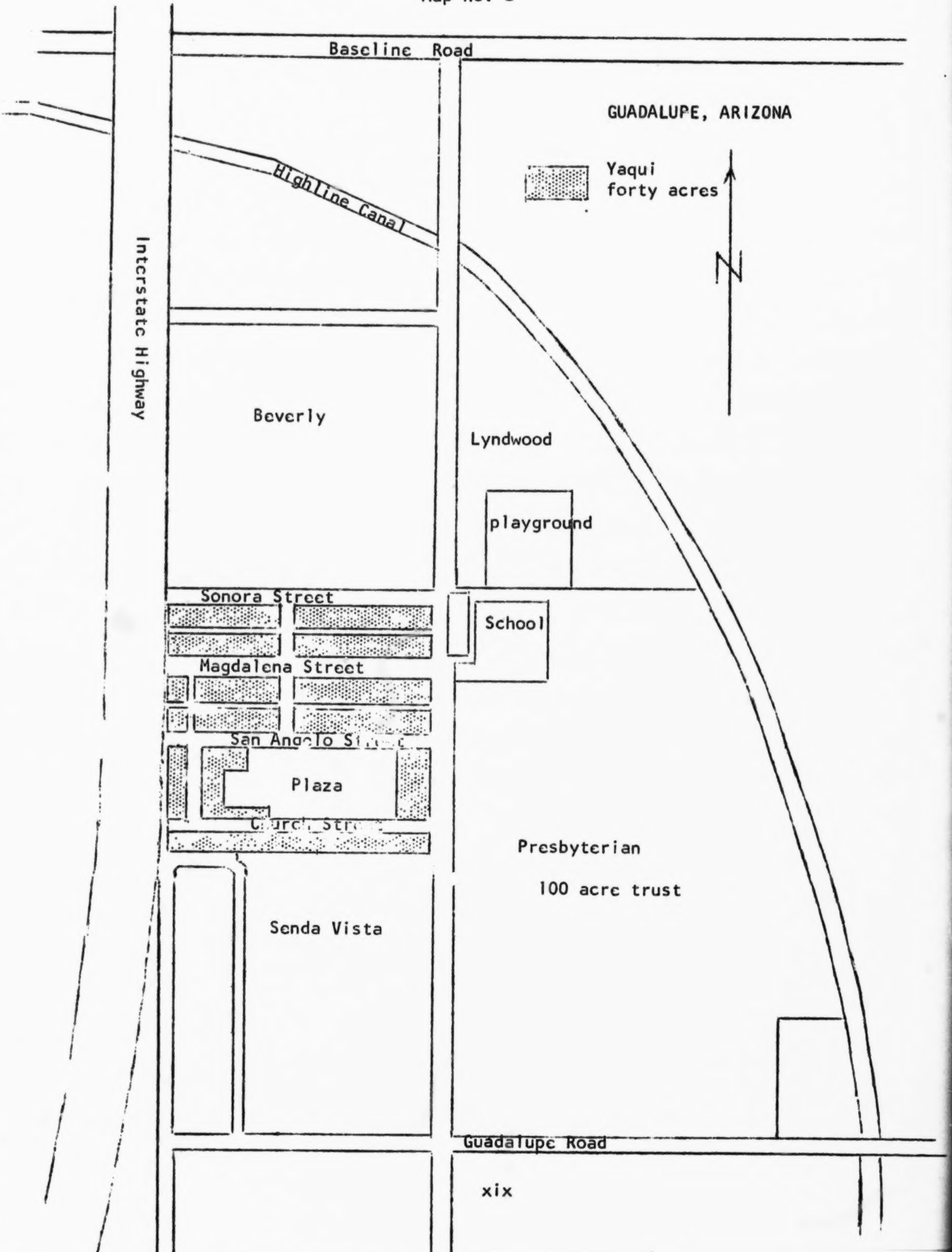
d. Applied Anthropology field procedures. Anthropologists, as operational experts working for one branch or another of the Federal Government, have worked out a fairly consistant methodology for contact and quick change in village societies. These techniques are not codified or refined but are usually modifications of anthropological field methodology. However, the body of knowledge resident in such journals as Human Organization gives evidence of an awareness that no village is as truly isolated as the professional fiction underlying cultural anthropology maintains. Consequently, we have found some articles valuable.

This report is organized into chapters covering the baseline conditions, the experiments in community development, and generalizations drawn from our experience. Special appendices set out in detail the procedures developed in operant psychology which have been used and one of the experiments in which these procedures were effective.


CENTRAL MARICOPA COUNTY
ARIZONA
Glendale
Phoenix
Scottsdale
Tempe
Mesa
Baseline Road
Baseline Road
Guadalupe Road
GUADALUPE
Gilbert
Chandler

Map No.

Map No. 2


Baseline Road
GUADALUPE, ARIZONA
▨ Yaqui forty acres
N
Highline Canal
Interstate Highway
Beverly
Lyndwood
playground
Sonora Street
School
Magdalena Street
San Angelo Street
Plaza
Church Street
Presbyterian
100 acre trust
Senda Vista
Guadalupe Road

CHAPTER I

BASELINE

History

In his classic monograph "Potam, a Yaqui village in Sonora" Edward H. Spicer said: The Yaqui Indians, natives of Sonora in northwestern Mexico, are notable among non-Yaquis who know them on three counts. They were the last North American Indians to be regarded by white men as a serious military threat. They are at present among the most widely scattered of North American Indian groups. They have retained their own ethnic distinctness almost wherever they are to be found in Mexico or the United States (1954: 1).

The characteristics enumerated by Spicer are interrelated. In the 16th Century, the Yaqui repulsed Spanish calvary raids. Peaceful entrance into the area by Jesuit Missionaries in the early 17th Century brought the Yaqui under the protection of the Catholic church. Pressures from Spanish colonialists to establish encomiendas in Yaqui territory were resisted by the Church until 1740. At that time an abortive attempt by the military to penetrate Yaqui territory created a period of unrest. The Jesuits were expelled by the Yaqui, but later invited back. However, they were withdrawn by papal order from the New World in 1767. This ended the period of peaceful coexistence between the Yaqui and representatives of Spanish culture.

More or less successful attempts by the Yaqui to keep Mexican control from being extended over Yaqui territory occurred in the years following the Jesuit withdrawal: 1825-27, 1838, 1840, 1867-68. In the

1880's the first military defeat of the Yaqui took place and though other insurrections against Mexican control occurred as late as 1927, the Yaqui have not maintained their independence since the 1880's. At this time there were permanent military garrisons in Yaqui country to prevent any further successful uprising.

The military prowess of the Yaqui was ultimately responsible for their dispersal. Yaqui opposition to Spanish and later Mexican attempts to control them resulted finally in a program designed by the dictator, Porfirio Diaz, to exterminate the Yaqui as a people. Beginning with the 1880's and continuing until the Madero revolution in 1910, the Yaquis were deported to all parts of Mexico as hacienda labor. Some Yaquis, fleeing Mexican federal troops, entered the United States as early as the 1880's as political refugees. These settled principally in Arizona and California. They were joined by other refugees from the Madero revolt and from the abortive Yaqui revolution of 1927.

The dispersal sent Yaqui into alien lands in special refugee status. Since the removal from their homeland was not looked on as a permanent arrangement the Yaqui continued to practice ceremonial activities when possible rather than attempting to adjust to the host society. As Mexican nationals, the Yaqui have never come under the jurisdiction of the United States Bureau of Indian Affiars. Many of them considered themselves guests in this country and returned to Mexico to fight again. Those who remained behind were proud of their Yaqui heritage of resistence to control. Their contacts with control agencies in this country have been as slight as it was possible for the Yaqui to make them.

Trouble occurring within the Yaqui community is settled locally if at all possible.

Aboriginal Yaqui patterns have been submerged by 400 years of contact with Spanish culture. At the time of the first white contact in the 16th Century it is believed that the Yaqui were scattered in small rancheria groups. These rancheria groups subsisted by flood irrigation farming and occupied land along the Yaqui River delta region. The rancherias, perhaps 80 in number, contained up to 100 people and were composed of male relatives and their spouses and children. The individual rancherias were land-owning, politically autonomous, but had alliances with neighboring rancherias through the exchange of women. The marriage rule was group exogamy. This type of alliance arrangement was integrated enough to allow the Yaqui to put thousands of soldiers in the field against the Spanish during the 16th Century encounters.

The 8000 Pomo Indians of California, organized in what Kroeber calls "tribelets" numbering an average 240 people, banded together for the purpose of resisting white pressure in the area. Their previous customary practice had been to make temporary alliances with neighbors to raid more distant Pomo tribelets. The banding together in the face of a common threat does not require an overall military organization structured for this purpose in advance of the threat.

In the 17th Century, when the Jesuit priests established 8 missions along the Yaqui river, the organization of Yaqui settlement changed. Clustered around these 8 villages, most of the Yaqui became for the first time associated with multi-family communities. The Jesuits taught the

Yaqui morality plays and used these as a vehicle to convert the Yaquis to Christianity.

The Spanish missionaries were few in number and were required to train assistants to carry on many of the minor sacraments. These assistants became the lay priests or maestros that the Yaqui use today. The morality plays are the basis for the Lenten Easter ceremonial observances which lie at the heart of the Yaqui religious life.

There had been no secular government above the family level before the advent of the Jesuits because there had been no community settlement pattern if "community" is defined as a multi-family settlement. Under the circumstances the secular government was made responsible to the Church hierarchy. Ultimate authority rested in the religious sanctions manipulated by religious leaders. The eight Yaqui communities were religious communities and their orientation was a sacred one.

When the Jesuits were expelled from the New World the Yaqui continued the tradition that they had been taught. The morality plays were still given at Easter as community fiestas, and the families continued to carry on family ceremonial organization pretty much as they had in previous generations before communities were formed. Community leadership rested in the lay priests and the heads of the religious organizations that served the Easter festival.

Spicer was able to set out five types of organizational authority within a traditional Yaqui village. He says that village officials recognize civil jurisdiction resting in the village governors or elected leaders who have authority over crimes, land use and disputes between families.

Disputes within families are generally settled without reference to community-level authority. The second institution is based on a military society which concerns itself with military matters in times of war and peace. The members drill during times of peace as preparation for possible war. The third area of influence is through the church officials and concerns the relationship of people in the village with supernatural. The fourth is the fiestero organization which is responsible for care of the Patron Saint of the village and for burials. The fifth includes the ceremonial societies that take over the village during the Lenten and Easter ceremonials (Ibid, p. 56).

These distinctions are often broken into two rather than into five sets with the civil and military in a secular division, and church, fiestero and ceremonial groups in a sacred division.

When the Yaqui were dispersed to the United States and eventually clustered in small groups, they organized themselves without reference to a permanent civil and military governmental system. Those individuals who could speak enough Spanish to contact the Whites were used as spokesmen by the groups. It was the opinion of individual Whites who dealt with these spokesmen that they were chiefs in the tradition of Apache leaders. Leadership of this sort was alien to Yaqui culture, however, except in the war-leader pattern. The jurisdiction of war leaders does not extend into civil activities.

The first Yaqui entered the Salt River Valley, in which Phoenix is located, around the turn of the century. By 1910 they had been joined by large numbers of others who were fleeing the Madero revolution. They were led out of Mexico by a missionary priest who turned them over to Franciscan Fathers in Arizona. With the aid of Catholic priests, the Yaqui were settled in an unused part of the cemetery near Tempe, Arizona. A contemporary description of them by M. J. Dougherty, an attorney who later helped them, states that they "were without food, clothing or shelter, and were suffering from various illnesses and starvation diet. At that time, 1909-1910, they were substantially savages prone to petty thievery and the stealing of cattle and horses and also given to the drinking of a native commonly intoxicating drink made from desert plants. As a consequence it was impossible to find any individual who would provide or sell the missionaries any land for the use of the Indians...in fact all of the communities were up in arms at any suggestion of locating these Indians in the populated communities" (1915). Through the efforts of Mr. Dougherty the Yaqui were able to obtain a 40 acre townsite and were removed there in 1910. By 1914 the legal work had been completed. In 1915 the Yaqui built a Catholic church. This church faces east upon a central plaza which was not set out in the original plat but is the customary way of town building in Yaqui country.

The plight of the Yaqui had stirred the interest of other than Catholics. A Mrs. Jessie Biehn attempted to convert the Yaqui to Protestant Christianity and was finally ordered off the land by representatives of the Catholic Church. She immediately purchased a 100-acre parcel adjoining the 40-acre Yaqui townsite and opened it to Yaqui settlers and "other poor people". This 100-acre parcel was conveyed as a perpetual trust to be used for the Yaqui by the Cook Bible School which in turn conveyed it to the present Presbyterian Church. These two parcels of land form a nucleus area of Guadalupe. Other sub-divisions north and south add another hundred acres to the settlement. The settlement is still unincorporated and has no central government.

With the building of the Catholic church a certain permanency for Yaqui occupation of the forty Acres was assured. Their continued existence there was dependent upon what agricultural day labor was available and charity from the two church groups. This situation changed in the early twenties.

The Salt River Irrigation Project which diverts water from the Salt River drainage area into the surrounding valley for irrigation purposes, began using Yaqui labor after World War II. The main irrigation ditches had been established by that time, some 1300 miles of canals and laterals, and all the maintenance work was done by hand. Because of increased farming activities much of the stoop labor required was preempted. Apache and Navajo Indians shipped in from the reservations were found to be unsuited for this type of labor, being primarily sheep and cattle raisers. Labor was imported from Puerto Rico but 90 percent of these immigrants had never performed manual labor. Most of them were skilled cigar makers.

In 1922 Mr. Lee Webb, superintendent of maintenance and construction, decided to use Yaqui labor. He was familiar with the Yaqui Indians from a number of years of living in Mexico. He negotiated with the Yaqui Indians to provide permanent labor for ditch maintenance. The word was sent to Mexico that steady employment was available near Phoenix and families began to immigrate. The abortive revolution of 1927 increased the flow of people from the south.

By 1926 the Salt River Project had established two permanent camps, one north and one south of the River, to house their working force. Some of these men left their families or established their families in Guadalupe and lived in tents in the work camps. Some brought their families with them to the camps. The tent cities existed between 1926 and 1942 at which time permanent camps were established. Buildings sixteen by twenty-eight feet, made of concrete block, were set up at the two locations - 57 houses in the north camp and 43 in the south camp.

With the growth of the Phoenix metropolitan area during and subsequent to World War II, considerable friction developed between property owners close to the villages and the Yaqui. The County Health Department brought pressure on the Salt River Project either to bring the camps into line with the County Building Code or to abandon them. A quarter of a million dollars would have been required to rebuild the camps and so in 1956 they were closed.

The need for ditch labor was decreased by modern methods employed to maintain the ditches. Fewer laborers with higher skills than most of the Yaqui possessed could more adequately serve the system.

The displaced Yaqui returned to the 40 Acres where there were a few house lots still available and to the surrounding developments including the Presbyterian 100 acres. The permissive employment practices of the Salt River Project were to some extent changed, and men were fired for not showing up for work. Some Yaqui are still with the Salt River Project, but many of them have become dependent upon either welfare or agricultural labor to make a living. 1956 begins the contemporary period for the Yaqui of Guadalupe.

Contemporary Conditions

The modern settlement of Guadalupe is unincorporated and contains around 5,000 people. The 1960 census showed 3,200 people living here, approximately one-third of them Indian and two-thirds Mexican-Americans. With the closing of the Salt River Project labor camps in 1956, the Yaqui established themselves in the settlement area, and since 1960 there have been few Yaqui additions. The growth in the area since 1960 has been Mexican-American. The Yaqui are an increasingly smaller percentage of the settlement population. Guadalupe cannot be called a homogeneous community because of the deep split between the Yaqui and the Mexican-Americans. Hostility existing between the two groups is based on mutual feelings of superiority and the long history of conflict in Mexico.

The Guadalupe settlement is not a dusty southwestern village but an open air slum. It borders the city of Tempe but is within the annexation limits of Phoenix and Chandler as well as Tempe. None of these three cities at present is eager to annex Guadalupe because of the expensive services that would be needed to bring Guadalupe up to standard codes. The low tax base in Guadalupe would not support the cost of the improvement in services. There is no central sewage system and only a primitive water system within the community. Most of the streets are ...

unpaved. There is no garbage service. Police protection consists of a resident Deputy Sheriff. A newly formed volunteer Fire Association has not been able to keep the flimsy houses from burning to the ground once fire starts.

Guadalupe is within the Tempe elementary school district, but its school buildings are sub-standard compared to the structures within Tempe city limits.

The 1960 census showed the median family income to be $2,665.00. Household size was 5.2 persons.

The rapid growth of the Mexican population surrounding the Yaqui Forty Acres has several causes. The 100-Acre Presbyterian trust land directly adjacent has been settled primarily by Mexicans. The first beneficiaries of the trust set up by Mrs. Jessie Biehn were Yaqui Indians. The influx of Mexicans created a split between the Presbyterian church and the Yaqui. The Yaqui understood the land to be reserved for Yaqui only. Yaqui Indians built the Presbyterian church, dug the ditches and laid the pipe for a water system, contributed money to pay for the cost of pumping machinery and contributed to a co-op store.

The Church has taken over the water system, restricted use of the church building to Presbyterian rather than non-demoninational Protestant Services and has leased the store to private persons, all without consultation according to the Yaqui.

Through the history of this relationship the Yaqui believed that they were building a Yaqui community and the Church believed that the Yaqui were contributing to the Church as an institution. This misunderstanding was resolved by the courts which held that the Presbyterian Church had an inalienable trust requiring that the land be beneficially held for Yaqui, Mexicans and "other poor people." The court also held that there was to be freedom of religion on the 100 acres, but that the church buildings were reserved for Presbyterian use.

To improve the conditions among the trust beneficiaries the Church brought in a community organizer trained by Saul Alinsky. This man organized a tax free corporation called the Guadalupe Organization in 1964, and conducted a drive through this organization to register the people in the whole settlement area to vote. The resultant heavy vote required that a polling place be set up in the settlement for the next election.

The Guadalupe Organization applied for and received O.E.O. money for a paid staff.

The O.E.O. Director had previously attempted to work through the Catholic Church to create a social center, health clinic, a parish school and a new church. These new buildings were scheduled to be built on the four and one-third acre plaza which included the Yaqui Catholic church in the middle of the Forty Acres.

In 1958 the Rascob Foundation donated $60,000 for a church building. This was matched by $11,000 collected within Guadalupe settlement. No titles had been issued within the Forty Acres since the township had been formally set aside in 1915. The Church initiated a re-survey of the Forty Acres November 25, 1959. The people, the Yaqui of the Forty Acres, were upset by the survey activities and took the stakes down at night that had been set up in the day time. Finally the surveyors used crosses instead of stakes and they were respected.

Occupancy of the Forty Acres by households did not follow the original plat filed in 1915. It was found that there were 120 plats of varying sizes that held houses, plus the large plaza and church building. For the Rascob Foundation money to be spent, it was necessary for the Catholic Church to gain title to the land. They had the plaza surveyed into lots with the expectation that these would be sold at public auction, failing a church award for a quit claim to the whole plaza.

Because of the opposition of the Yaqui parishioners the Church withdrew its suit and built its parish center off the Forty Acres, utilizing the Rascob funds. A health clinic has been set up on the Presbyterian land. The public school system has been improved so that a parish church is no longer needed. A social center has been constructed off the Forty Acres. The church building has been re-plastered and is used by the whole Guadalupe settlement for Sunday Mass.

With the aims of the O.E.O. Director satisfied without taking over the Yaqui plaza, the Yaqui have ceased to be important to the Mexican community. Officials in G.O. are elected at a town meeting and at present a Yaqui is President of G.O. The Yaqui do not accept him as their leader, however, but as an individual working for himself. Delegation of authority among the Yaqui requires that only Yaquis participate in the appointment process. In order to attract new O.E.O. funds it is necessary that G.O. purport to represent the entire settlement. The Yaqui president is used as evidence of this representation.

At present there is a loose alignment between public school and Presbyterian Church. There is another loose alignment between G.O. and the Catholic Church. Service agencies from the state and county work with both of these established special interest groups. The Yaqui of the Forty Acres are not aligned with either of the parties, but are subject to pressures from both of them.

During the period in which the Catholic Church was attempting to get title to the Yaqui plaza an anti-Catholic faction stemming from the public school led a group of Forty Acres residents to contest the church claim. On May 9, 1962 a non-profit corporation called the Guadalupe Community Association drew up its articles of incorporation. They intervened in the church's request for title stating that the land that the church was put on belonged to the Yaqui and should not fall into ownership of the Catholic Church where it would be used for Mexicans as well as Yaqui.

The incorporators were individuals who had worked closely with the schools. The school nurse, unofficial advisor to the group, had been particularly active in setting up welfare payments for Yaqui families. The incorporators were established collaborationists with the dominant society and had served in this role for some years. The president of the corporation from the date of the establishment of the Guadalupe Community Association called himself the chief of the Yaqui. This position was not one which the community accorded him. He was able, however, to bring pressure from the welfare agency, the sheriff's office, the narcotics bureau, the immigration office, against individuals who contested his authority. He became feared and hated except by those individuals who directly benefited from an association with him.

The Forty Acres Yaqui were without a secular government from the time that they established themselves in this location. Various strong men representing themselves as chiefs or governors, some of them elected, some of them not, had contacted the outside world for the Yaqui during this period. With the 1956 closing of the Salt River Project camps, new people moved in to the area who wished to be associated with the Forty Acres. As space filled up many of them found it necessary to purchase land adjacent or to move on to the Presbyterian free land. Some of these individuals have established a place in Forty Acres affairs and some of them have not. Much of the land was filled up before the move. On the Forty Acres not there are 79 Yaqui families, 13 Mexican families and 33 families that are Indian but not Yaqui. Many of these latter are Mayo who speak the same language as Yaqui but who are recognized as distinct. A few Papago and Opata families are present as well. It is a requirement for participation in Yaqui ceremonials to speak Yaqui and several Papago families have individuals who have learned the language and who participate. The presence of these non-Yaquis on the Forty Acres, however, is a sore spot since there are Yaqui families who would like to live there but cannot because of lack of space.

The activity of the Catholic Church in its attempt to create title set in motion the issuing of deeds to all families on the Forty Acres. Starting in 1962, 119 deeds have been issued. One deed is still in trust because the beneficiary will not apply for it. One lot is open.

This lot was claimed during the deeding period by the head of the Guadalupe Community Association for his son. It is in an area that had been considered public land by the Yaqui. Since this man is a Papago, although he speaks Yaqui, his activity is considered antisocial. The foundation for a community building was put on this land without the knowledge that a deed had been issued. After the foundation was complete the fact was made known by the owner and the school nurse who threatened legal action if any further building were done.

Although there has been no recognized secular government on the Forty Acres the ceremonial activities that require the participation of the full community during the Lenten and Easter seasons and during the Virgin of Guadalupe Fiesta, December 12th, have been conducted for some time.

The Easter festival is the most important of the community ceremonial activities. Previous to the oncoming of Lent the Farisco (Pharasee) Organization meets and elects a head and his assistants. The Head Farisco is responsible for collecting money to decorate the altar and feed the participants in the ceremony. Individuals join the Farisco Ceremonial Organization by vow, usually during illness. Some parents vow their children if the children are ill. The Fariscos ask non-ceremonial members to help with the preparation of food, decoration of the altar and other activities not directly associated with the ceremonial but required for its success.

The Fariscos have a special group called Chapeyekas who are considered to be beings of another world. These individuals wear helmet masks that cover their whole heads. Chapeyckas fill these positions by vow. The positions are considered dangerous because the Chapeyckas are the direct enemies of Christ. Weekly during Lent the Chapeyckas appear in the village masked, make the stations of the cross around the plaza looking for Christ. During Easter week intense activity in a search for Christ, his eventual discovery, betrayal and execution and resurrection are portrayed.

During Easter week three other ceremonial groups join in the festivities. The first is the lay priest, with his women's chorus, who carries on chants in Latin, Spanish and Yaqui from a homemade missal. The women's chorus provides support by echoing words of the prayers or songs. The second group is the Matachini dance society who are vowed to honor Jesus. They appear in costume and dance to the music of Spanish instruments. The third group represents an aboriginal religious survival: a deer dancer and two or more side dancers who dance to songs sung by three musicians. A water-drummer, two rasp players, and accompanied by a fourth, a man who plays flute and drum at the same time. Alternating with these musicians are two men who play violin and standing harp. Only the pascolas dance to his music, while the deer dancer stands aloof. The pascolas wear masks while dancing to the aboriginal music, but not while dancing to the European music. These last three groups represent friends of Christ who are, however, incapable of protecting him from his fate.

In Mexico other ceremonial organizations are important, but in Guadalupe these are the ones that are most significant. At that it is sometimes necessary to send trucks down to Mexico to bring back a maestro, cantoras, deer dancers, pascola dancers and musicians. There are some individuals in the Guadalupe settlement who can do the deer dance, the pascola dance and play the instruments. There are even a few Maestros. Because, however, of local jealousy these people will not participate with the Mexican importations. Furthermore the Maestros in the Guadalupe settlement ask for large fees which is contrary to Yaqui practice.

It is customary that no one associated with the Easter festival receives pay. The deer dancers, pascola dancers and musicians sometimes receive gifts but all that is required is that they be fed and given a place to sleep. Transportation, of course, is customarily provided. Their participation, however, is a personal act of service to God and the benefits that they are expected to receive in Heaven is presumably pay enough.

The Virgin of Guadalupe fiesta in December is a small version of the Easter festival, limited however to participation by maestro, cantoras, deer dancer, pascola dancers, musicians and matachinis. The farisco society does not participate. There is a special society devoted to the Virgin of Guadalupe that takes responsibility for making arrangements and raising money to hold the fiesta. Although both of these ceremonies are community-wide and both are very well attended by non-participants, the truly important one takes place during the Easter Season.

Because the Forty Acres existed in a trust relationship to the Maricopa Superior Court system for many years prior to the issuance of deeds to individual properties, the Yaqui have been in the habit of requesting the Superior Court Judge for permission to tie up the plaza during the fiesta periods. The judges have sometimes been called upon to rule between two claimants wishing to exercise authority during a fiesta.

With the formation of the Guadalupe Community Association the head of that corporation represented himself to the Judge responsible for the trust, as the official head of the fiesta system. He asked for a letter of permission which could be shown to the people authenticating his leadership. The Judge complied with his request without checking the matter. This man was supported by the school nurse who was well known to the judge.

Since this man had no official connection with the Fariseo organization or with the Virgin of Guadalupe Fiesta society his interference was deeply resented by the Yaqui. It has been the practice to invite a traveling carnival to share a portion of the plaza grounds during the fiesta to provide rent for the use of the land that would help defray the cost of the fiesta. The head of the Guadalupe Community Association arranged for the carnival and collected the monies paid over without, it is reported, distributing them.

Opportunistic leadership is reported from Mexican Yaqui country by Charles Erasmus so the pattern is a familiar one to Yaqui (1967:26). During the Easter fiesta this man and members of his board of officers of the corporation patroled the plaza threatening people that he could call off the fiesta if he so desired. The people responded by declaring that they themselves would call off the fiesta if his interference became too great. But, because they were participating by vow they were not able in the last instance to do so.

Religion is a most important aspect of Yaqui life. In Guadalupe the chief way that one can win community approval is by participation in religious activities. It is synomous with being a good Yaqui.

In addition to community festivals a number of household festivals occur during the course of the year. Household fiestas mark the occasion of a death and funeral, then 9 days later a Novena, and on the first anniversary of a death a Luta. These fiestas are all-night ceremonies. The first night is restricted to the relatives and is one of quiet prayer. The second night a larger wake may be held with the general public invited.

The sacred number in Guadalupe is three. Consequently three Lutas should be performed, three years given to participation in the Easter festival and etc. Since fiestas are expensive, sometimes they are postponed until enough money has been saved to carry them on. Relatives, godparents and ceremonial kin are expected to help finance fiestas. Fiestas, therefore, are a way of distributing wealth.

Individuals invited to fiestas come with money, food, labor, materials to build ramadas, etc. Everybody brings something. Those who have more food on hand than their neighbors bring more to the fiesta. Everyone takes food home. Those whose need is great, compared to their neighbors, take the most. Very few weeks pass at Guadalupe without some kind of a fiesta. These have been restricted to weekends because of the demands of the 5-day Anglo work week.

The fiesta system is a source of tension between Yaqui and Mexicans. During the big fiestas when the Yaqui leave the Forty Acres to collect donations from Yaquis living among the Mexicans, the Mexican children are encouraged to taunt and throw stones at them. The Yaqui have found that official permission from the judge in the form of a letter giving them the right to hold their ceremonies is often respected by police who would otherwise send them home.

In recent years the fact that the Superior Court judge who held the plaza in trust gave permission to conduct the Easter fiestas to the wrong man caused much distress, but the judge would not reconsider his decision. Subsequently the judge was removed from the bench for medical reasons. He was incompetent as a sufferer of Alzheimer's disease, a neurological disturbance. No lasting damage was done to the fiesta system, but the outside interference made everything harder for the people

All-night fiestas held in private homes have been noisy enough to cause Mexican neighbors to complain. Resident priests have made sermons against the deviant practices of the Yaqui in reference to the crisis-rite ceremonialism. In view of the pressures from outside on the Yaqui it is remarkable that the fiesta system is as strong as it is. It remains, however, the most characteristic Yaqui activity and its discontinuance would mean an end of Yaqui life. The distinction between a Yaqui and other Mexican-Americans would disappear.

Approach

Our approach to the community development at Guadalupe was necessarily directed by the realities of Guadalupe culture. The facts were these:

1. There was no over-all secular government operating on the 40-acre Yaqui townsite.

2. There was no possibility of initial cooperative effort between the Mexicans and the Yaqui.

3. There were fewer Yaqui than Mexicans.

4. The Mexican community had established an organization of its own that was hostile to outside manipulation.

5. The Yaqui were isolated, not only from the Mexican community but from the dominant society.

6. To program the self-conscious Forty Acres Yaqui, it would be necessary to tap the central power structure, if any.

7. The local collaborationists established in strength within a period just preceeding our entry into the community would object to our operating outside of channels.

8. The people, having repudiated the collaborationists, would refuse to work with us if we worked through channels.

9. The fiesta system seemed to be the one integrating mechanism within the community holding families together in times of crisis and the community together as a rallying point several times a year.

In order for us to move into the community and operate there as if in an experimental laboratory situation it was necessary to establish for ourselves a role in the community that could be incorporated into the system. Before we could start real experimentation it would be necessary for us to establish rapport so that the possibility of being thrown out of the community would be lessened.

The baseball experiment reported in the next chapter was not related to the power structure. It was a secular activity in a non-sensitive area that gave us a change to participate marginally in Yaqui culture. While we were engaged in playing baseball with the Yaqui they talked about fiesta activities because they are much on their minds. We were sympathetic in listening and expressed interest in this dramatic aspect of Yaqui culture.

By November of the first year, five months after our initial entrance into the community, we were asked whether we would help with the fiesta of the Virgin of Guadalupe. This is the smaller of the two religious festivals and was ideal as a way of demonstrating our reliability, along with our willingness to place ourselves under local mechanisms of social control.

Two problems were said to impede fiesta preparations. 1) arrangements for securing a troup of ceremonial entertainers from Mexico had disintegrated. 2) The Guadalupe Community Association had opposed the fiesta by "talking against it".

These two were probably related since the head of the Guadalupe Community Association was in contact with the Sonoran dancers and may have asked them not to come. At the previous fiesta this man and his associates had roped off part of the plaza and had stated that it was being claimed for house lots. The ropes were removed by Maricopa County

Sheriff's deputies who were brought out by people fearing violence. It was hoped that our outside connections might be sufficiently strong to keep this man and his associates from preventing the fiesta or causing trouble and disrupting it during the current celebration.

The fiesteros that had been choosen to sponsor the 1963 fiesta of the Virgin formerly requested that representatives of our project meet with them and discuss the possibility of help under their authority and direction. At the official meeting a request was made for donations for flowers, for transportation for dancers, and for publicity to bring Anglos out to the carnival to help pay for the cost of the fiesta. We agreed to arrange for the dancers including finding them in Mexico and transporting them to Guadalupe. We agreed to purchase flowers for the altar. We agreed to arrange for publicity so the Anglo society would come out to watch the fiesta and spend money at the carnival and consequently help pay for the fiesta. This last agreement was a very dangerous one and subsequently led to trou ble.

The fiesta itself progressed very well until a television truck came out to take some clips of the fiesta to release as local color on the evening news program. We had been expecting them and waiting for a community response. The community response occurred in the form of the head of the Guadalupe Community Association calling the county sheriff to arrest the people taking pictures. By the time the county sheriff arrived at the fiesta the T.V. truck was gone but the field workers present there were pointed out, along with some of the fiesteros, as being responsible for the outrage. The sheriff listened to both sides and finally accepted a suggestion made by one of the field men, that the head of the project, J. A. Jones, should be called out to settle the whole problem.

Jones was called and told the sheriff there would be no more trouble. He told the Yaqui there would be no more trouble, told the field workers there would be no more trouble, told them to continue with the fiesta, watched until it started up again and then went back home. These two incidents -- 1) being called to the fiesta headquarters to meet with the fiesteros and 2) being called out to settle the difficulties within the pueblo, established the project head as pro-Yaqui, a man of power in the outside society, at least comparable and probably stronger than the collaborationist who had been dominating the community for several years. The fact that the project head was responsive to requests for help where there was conflict between what the people wanted and what the collaborationists wanted made a trust relationship between the project head and the ceremonial power structure of the town feasible.

The public spectacle provided V. I. B. personnel a chance to participate in the fiesta by running errands for Yaqui and eventually to demonstrate authority within the outside community by moving the sheriff away from a potential trouble spot. This made a big impression on the people living on the Forty Acres. The project had established credibility. A meeting was called by the Virgin of Guadalupe Fiestero society to thank project personnel for their participation. To this meeting the project brought the Project Head and Dow Ben Roush, a local attorney who had volunteered to help.

Attending, uninvited by the Fiestero Society, were the Guadalupe

Community Association officers with a portable public address speaker and a professor of Indian Education who was sponsoring the Guadalupe Community Association as the de facto leadership in the community.

The head of the Fiestero society formally thanked members of the project for their participation. As soon as he sat down the head of the Guadalupe Community Association began addressing the group of 30 to 40 people through his portable address system, drowning out all other talk. It was impossible to interupt him. He harangued the group for 20 minutes. At the end of this time there was a silence in which a number of the fiestero personnel came to the project head and asked him to answer the Guadalupe Community Association leader.

No one in the Guadalupe society felt well enough placed to be able to speak out against a man who was able to call in sheriffs when he was displeased. At the request of members of the society, the project head stood up and addressed the group saying that Fiesta business was under discussion which was the business of the Fiesta society and not of outsiders and that disruptions in the Fiesta society's business was contrary to the spirit of Yaqui culture. At this point the project head was challenged directly by the Guadalupe Association leader. "What are you doing here?"

"I was invited. What are you doing here?"

"I am the chief of the Yaqui"

"What evidence do you have that you are chief of the Yaqui?"

"I have my credentials here."

"Bring them forward so that we may examine them. We have an attorney present that will tell us if they are legal."

At this point the head of the Guadalupe Association brought forward the incorporation papers of his organization, a letter from the Governor of Arizona wishing him good health, an honorary deputy sheriff's card and several other documents of this order, none of them having any legal standing establishing him as being chief of the Guadalupe Yaqui. He was most proud of his deputy sheriff's card saying it gave him authority as if he were deputy sheriff to make arrests. (We promptly got a half dozen such cards for other members in the village flooding the market somewhat so that this ceased to be important authority credential.)

The attorney explained that none of the credentials offered had any standing in so far as establishing the head of the Guadalupe Community Association as a Yaqui chief. At this point he was challenged by the professor in Indian Education. He repulsed the challenge and the Indian Education Professor left the meeting. This interchange further established the relative power of project personnel in the dominant society from the point-of-view of the Yaqui.

At the conclusion of this meeting the Fiestero officials requested the project personnel to work with the Virgin of Guadalupe Society the following year in making plans for the Fiesta. We were expected to vow to help for three years within the Yaqui framework of behavior and so we accepted this responsibility. This assured the people that we would not be leaving the community directly, something that is always a matter of concern when outsiders come in and profess a desire to participate in community activities.

During the Fiesta period a number of overtures were made to Project personnel about other kinds of community activities. The personnel had been trained to respond to all overtures with remarks that the overtures would have to be relayed to the Project director. Then, if on consideration the assistance was within the realm of possibility for the Project to undertake, a program would be designed around that privation area. We were looking particularly for some kind of activity that had long range significance in terms of behavior so that it would be possible to shape up types of behavior within that range of activity.

The most interesting suggestion that was made during this period was that we should consider helping the people to rebuild houses and repair the ones that were occupied. It was stated that the local newspaper, the Arizona Republic, sent photographers to the village before Christmas at night to take pictures of the lights shining through cracks in the walls. Subsequently the pictures were run with captions stating that widows and orphan children live in Guadalupe and needed Christmas alms. This particular kind of publicity was very upsetting to the Yaqui and they wanted to nail boards over all the cracks in the walls so that it would be impossible to take more pictures. Any reference to Guadalupe as a poverty pocket has created intense resentment among the people who live there.

It is our practice when working with areas of community development to check out very thoroughly the possibility for success before we undertake a program. Consequently we made a series of contacts throughout the white community to determine whether or not we would be able to get materials donated by contractors or whether we would be required to pay for all of the materials out of the project funds. We found that it was very simple to get materials from contractors and that they were enthusiastic about saving scrap lumber if we would pick them up as soon as notified that the site needed clearing. We worked out agreements with a number of contractors before we brought the idea back out to the community.

When we told the individual who had approached us, supposedly in behalf of a special interest group, that we were ready to work with the problem of house repair we set up conditions that would be necessary for the community to meet to secure this kind of help. We would supply the trucks and the drivers and they would have to supply the loading crews. At first when our driver and truck appeared in the community only the individual that had expressed interest showed up and it turned out that our drivers and this man did all the loading. Then when it was necessary to unload the trucks out in the community nobody appeared to help. We unloaded the material in his back yard.

After several such loads had been delivered without any interest on the part of the community demonstrated at all, we attempted to find out why. This investigation made it evident that the man who had contacted us had done so on his own. He had not established himself as a spokesman for the community before he approached us and consequently the community would not validate his position by appearing to help us unload the trucks. This abortive experiment, including the period of investigation, took several months.

Building activity was discontinued and the adult education program instituted which is described in the following chapter. We were still not, however, in an area where we had community participation in community development. The adult education program was successful only in the University setting. Attempts to institute adult education on the Forty Acres was a failure.

It takes time to establish rapport. We went through the second year as sponsors of baseball, contributors to the Virgin of Guadalupe Fiesta activities and teachers in the adult education program, being as regular in redeeming promises for help as we could possibly be, to establish the validity of our word. We paired our promises with help of a more material nature.

In December of 1964 members of the Virgin of Guadalupe Fiesta Society invited us to reinstitute our building program. They indicated that they would form a special interest group for this activity from their membership. We were requested to present estimates of the extent to which our help might be counted on. We told the organization what we might do, including supplying materials and equipment and direction for specific building activities and supervision of training programs until the community became well enough skilled to undertake these responsibilities themselves.

We made some inquires about what kinds of activities they wanted and it turned out that they wanted not to repair buildings but to completely build anew and they requested to build in adobe. We, therefore, stated that we would construct a machine that would make soil-cement adobe which does not need plaster to protect it from moisture. We promised to try to have it ready by January 15, 1965.

We arranged with Hank Schrieber of the Arizona State University Art Department to put together a machine that he designed to our specifications. As with all prototypes the machine took longer to build than we had hoped. We were called out a month after delivery of the machine was overdue and asked to meet with the organization to explain the delay. We arranged at that meeting to bring representatives from the organization into the University to watch the machine in its construction.

On March 7, 1965, an organization meeting was held to work out a corporation charter for building. This organization met without our knowledge and elected a series of officers. The president was a woman who was known to be outspoken and unafraid. She was essentially a collaborationist that the community offered as an expendable person in case something went wrong. This woman wrote not only the organization charter but the installation procedures, a copy of which is appended to this report.

One week later a second organization meeting was held to which the project director was invited. At that time he was informed of the activities which had taken place. He was told that representatives of the Matachine, Farisco and Virgin of Guadalupe Societies would be present to give their blessing to the project. He was also told that the project name would be the Jones Home Organization Association. The adoption of this name was supposed to engage Jones's attention so that he could not let it fail.

On March 21, 1965, the installation meeting was held. Jones appeared with several of his field workers. Attending were all of the officers, the women's auxiliary and representatives of the fiestas societies. Representatives of the fiestas societies, along with the entire audience, stood and swore an oath that they would support the principles of the building committee without opposition in the form of gossip. Gossip in this community is one of the most effective methods of social control. Jones was asked at the meeting to bring models of houses in for the people to look at and make choices for construction.

On April 8, 1965, Jones brought models designed by university student architects to the head of the Jones Home Organization. Ten days later one of the men requested permission to move the lumber that had been unloaded in the earlier abortive attempt of construction to a new site that had been choosen for the community materials dump. Jones gave permission. A month later the president of the Jones Home Organization resigned. She had been subjected to increasing pressure from the community to step aside and let the men who would be building the houses make decisions. We accepted her resignation.

A series of rumors swept the community in relation to the building program. Among other things it was rumored that mortgages would be required on the houses that were to be built. This frightened the prospective homeowners and they needed reassurance that this was not the case.

It became apparent that the brick making machine could not be delivered in working condition in time to implement the building program that summer. Promises for help had been paired with immediate help and our word had been made good in other circumstances. Consequently, our verbal promises alone maintained the existence of the building committee.

The baseball program was re-initiated, the results of which are reported in the chapter on experiments.

During the summer it was possible for the project to take into its operation 15 members of the Neighborhood Youth Corps, all from Guadalupe. Some of these were Mexican and some of them were Yaqui. Ninety applicants had been accepted from Guadalupe. Those who did not work with our project worked as youth labor at assigned tasks that included sweeping floors, washing windows and cutting brush around the University. They were treated like adult unskilled labor,

The Project group was divided into three work crews. These were each assigned a building site in Guadalupe. They prepared the ground for foundations during the cool part of the day, starting to work at 7:00 o'clock in the morning. Three hours in the afternoon after lunch were devoted to class room study in which they were taught basic plumbing, welding and electrical procedures along with the necessary classroom work in mathematics to understand house construction. They also used the classroom period to design houses within the Yaqui model.

At the end of the summer the brick machine was delivered in working order and the experiment in house construction with the men was begun. This is set out in more detail than the other operations in the community because it was the main thrust of the project. A full account of the activities is to be found in appendix B.

CHAPTER II

EXPERIMENTS

First Experiment: Baseball

Contact was first made with the Guadalupe Yaqui through the efforts of people marginally associated with the Yaqui. Susan Bachrach, wife of one of the early co-investigators, delivered a Thanksgiving turkey to a Yaqui suggested to her by Mrs. Frank, the principal of the Guadalupe Elementary School. This family consisted of a man blinded in an industrial explosion, his wife, and their eight children. Mrs. Bachrach maintained an interest in the family for some months, and in May, 1963, introduced Jones to them.

Jones presented himself as an individual interested in Yaqui culture, and eventually became a friend of this family as well. A clinical model was established as an ongoing relationship between Jones, and others introduced by him, and the family.

A television set which needed several tubes was repaired free. The head of the household was hired in a summer program to train student anthropologists in interviewing techniques. An adverse decision by the County Welfare department, relative to support for the family, was changed through a complaint which activated a review procedure.

The blind man who was the head of this household was developed as our initial probe into the community. Lists of names and addresses, gathered through archival research, were presented to him for identificatio
Households were located on maps constructed from an aerial photograph of

the town, along with other sources. Family relationships among households were established. Relevant interaction patterns among friends, rivals and formal organizations were delineated. These collations were subsequently revised and refined, but the original formulations were of great value in initiating fieldwork.

The second contact developed through the wife of Bill Ringle, a graduate student associated with the project, who was a teacher in one of the two elementary schools to which Yaqui children go. This woman announced in the classroom that she would like to attend a Yaqui festival in Sonora, and asked the children for information. The next day one of the children gave her a telephone number and relayed the information that her parents would advise the teacher. The Yaqui couple was invited to the teacher's home, and contact was established.

The social relationship between acculturated Yaqui and middle class Whites is not much different than the relationship between any individuals on a peer basis. Home and home visits where hospitality was extended culminated in vacation trips, together with one notable visit to the Yaqui of Sonora. Contacts were made there with relatives of the Guadalupe family which were later consolidated through other field visits.

The Guadalupe Yaqui family was used as a sounding board to present statements about the research program. Their responses served as a guide to possible areas of contact within the village.

It was obvious through our survey that a number of social services were badly needed in Guadalupe. The community lacks sewage disposal, garbage disposal, running water in the houses, pest control and other amenities of middle-class America. The disease vector present in the community were evident through the high rate of diarrhea reported by the Public Health Service. Rather than choose one or another of these basic areas for community development, we allowed the community to determine where our help should be placed.

In response to our expressed interest, this second contact approached people in the town explaining our potential role and asking for suggestions that would help define it more specifically. This man did not reside in the Forty Acres but in a sub-development south of this enclave. He had held a steady job for a number of years and was considered as having passed into the Mexican community by Forty Acre Yaquis. His contact on our behalf brought him into prominence within the Forty Acres group and gained him a measure of respect. His role as collaborationist brought him the first evidence of community acceptance that he had had in some time.

A special interest group composed of middle aged Yaqui men had attempted to organize a baseball team for teenagers for some time without success. Their appeals to the Catholic Church for sponsorship were not answered, due partly to lack of necessary funds for equipment. Furthermore the request had generated a reaction on the part of others in the community against the secular use of the public land in the plaza fronting the Church.

Legal control of the plaza was at this time being contested in the courts. The Catholic Church was attempting to establish title in order to make use of a Rascob Foundation grant to build a parish school.

Misunderstanding of the Church's position left most of the Yaqui confused as to the real issues. A group of Yaquis, organized as the established collaborationists, Guadalupe Community Association, further confused the issues by starting suit in behalf of the Yaqui to prevent the Church's gaining title to the land.

It was feared by both sides that any new use of the plaza land might create a new claim that would have to be quieted in the courts before the case could be settled. No one of the parties therefore, was eager to see a secular use of the plaza develop counter to those already established.

These preliminary contacts all occurred before this research project was formalized. The contract entered into between Arizona State University and the Medical Research and Development Command, Office of the Army Surgeon General, took effect July 1, 1963. In July, in response to a formal request by the baseball special interest group, through our established collaborationist, we promised to sponsor a baseball team.

As soon as this promise was made current news in the community we received a letter from the G. C. A. group that we must clear any community development activities through it. Our understanding of the political structure of the village required us to ignore this request.

We suggested to the baseball special interest group that they must demonstrate their interest to earn the baseball equipment they needed to begin regular organized play. Consequently without further suggestions they raked the plaza area, chopped the weeds, and established a diamond. Following this they put up a chicken wire back-stop and built dougouts to shield players from the sun during games. When not occupied in establishing the diamond, they practiced. At that time their equipment consisted of one fielder's mitt, a cracked and taped bat, a taped baseball and the bases left over from a church sponsored program established years before.

After several weeks of work, accomplished usually in the mornings before it was time to report to the fields as agricultural laborers, and after return from the same fields at night, the people sent word through our collaborationist that they were ready for organized play. We asked them to schedule a game for the following Saturday. Before the game started, in view of all the people there watching, we delivered complete baseball equipment to the team.

The opponents they had chosen were a Mexican team from South Phoenix. Later in the season they played American Legion teams of Anglos and Mexican teams from other towns. They visited the Yaqui community in Tucson and played there with a local Yaqui team.

Trouble in the form of requests by the Maricopa County Judge who acted as trustee for the plaza land appeared soon after the first game. Letters to the Judge, requested by the G. C. A., had been written by workers in White agencies that dealt with the community ghrough the established group. The Judge requested that no permanent structures be built on the plaza land. When he was assured that all the structures were movable and would be removed before the November fiesta, he allowed the use of the plaza for recreational purposes to continue.

Attendance at the games was heavy. Young men who had not previously had any opportunity to take part in activities that would merit approval from adults, for the first time became valued as representatives of the community. A number of the players had police records and among some of the more conservative Yaqui there was a fear that these individuals would publicly embarrass the Forty Acres people. However, during the two months in which this activity was carried out there was no trouble with any of the players.

We interpreted this stated interest of the group and this attempt to organize baseball as more than a request for recreation. We saw it as a statement of a need for an activity which would allow teenagers to win social approval from the community's adults.

We attempted to regularize baseball playing behavior by reinforcing attendance at practice sessions. Those people who came regularly to practice were taken to a baseball driving range once a week and allowed to hit balls fired by the pitching machine for a half an hour. Those who had not been regular in attendance were required to pay for their own turns at bat.

Each practice session began with the introduction of a new baseball into the game. We let the men take balls home to play catch with. By the end of the summer these baseballs, in various stages of disrepair, were in the hands of younger and younger children, and when the diamond was not being used by the teenagers, the pre-teens would be practicing or playing sand-lot games.

Half way through the summer we hired a coach from Phoenix Junior College to work with the team. His help paid off in a string of lop-sided

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wins for Guadalupe. When baseball season ended, late in August, this special interest group erected a sign in the plaza thanking the Project publicly for its participation in the community activity. A fiesta was held, to which members of the project were invited as a formal expression of the community's thanks.

The following year we were asked directly by members of the special interest group, bypassing our collaborationist,to reinstitute baseball. We responded to this request as we had during the first year. One of the members of the Project was designated as our agent for this activity. The special interest group worked through him to request new equipment and help in arranging transportation for games. This agent attempted to take too much of the responsibility for making decisions concerning baseball into his own hands. Among other things, he invited some of the Mexicans who had been associated with the team the previous year to join the Yaqui at practice. While the Yaqui had tolerated this the previous year they were more interested in letting the Yaqui boys play than in winning games. Within a matter of a few weeks they expanded the team and reorganized it without the Mexicans or our agent. Then, through another member of our Project, they requested permission to continue to use the equipment, which we granted.

The third year they again asked us directly to provide a coach who would be able to set up games that would make them eligible for entrance into the semi-pro league organized out of Phoenix. We hired the same coach as before and he was able to perform according to their desires. He operated on a complctly permissive basis, allowing standards of play to be set by the people themselves, giving advice only when requested. The nucleus of this team was invited by the Mexicans in the community to join them to form a semi-pro team. They accepted this invitation and were then able to completely divorce this activity from our direction. This contact is one which has allowed closer relationships to develop between the Yaqui enclave and the surrounding Mexican community.

The baseball experiment was valuable in that it gave us the chance to develop contacts with adult men who were respected members of the Forty Acres group of the Yaqui during the first year of our operation. In addition to 70H-7, who was our collaborationist and finally became trainer for the team, we came to know 23NB-3, sacristan for the church and equipment manager for the team, 27A-3, self appointed score keeper, who offered to buy beer for all home runs made; 39A-3, in charge of the soft drink concession, devoted to creating a petty cash fund for extra equipment; and 38B-3, a curandero specializing in sprains, who had ridden with Pancho Villa and was an authority figure in the community. These men regularly showed up for the Sunday afternoon games and since the season finished with nine wins and four losses, they were associated with a successful venture.

These men, and their friends and relatives, continued to associate themselves with subsequent project activities, growing in experience in the process. Several of them have become outstanding leaders in the community, though at the inception of the baseball program none of them were highly regarded in secular roles. There is little opportunity for middle-aged men to establish themselves as community leaders just as there is little opportunity for young men to earn community respect in any activity.

The baseball program also allowed us to create peer relationships between some of our graduate assistant staff and the Yaqui young men. Particularly successful was the introduction of Mark Berman. Mark was a left-handed pitcher who helped train the Yaquis during the Tuesday, Thursday and Saturday practice sessions. He later became director of the Yaqui adult education experiment series.

We were able to demonstrate an interest in an activity common to both Yaqui and American societies. Baseball is as popular in Mexico as it is in the United States. The Yaqui have baseball teams in Sonora as well as in this country. Since both cultures have a legitimate interest in baseball as a game it was acceptable for our people to take an interest in this activity within the community of Guadalupe. A direct approach to a more sensitive area, such as religion, would probably have met with rebuff. Since we were able to establish the fact that, at least in this non-sensitive area, we were easy to know and non-punishing to associate with, the possibility of expanding the relationship was created. We wished to begin work on a research area in which more control was possible in order to find out exactly what could be done with men living in free societies. Consequently, when the Yaquis suggested adult education we were happy to create programs for them.

Second Experiment: Adult Education

The second experiment was designed within the framework of adult education. The twenty-one players who had been associated with the team, and the adult Yaqui who worked as managers for the team expressed an interest in additional education.

In a series of meetings in October we decided to develop an adult education experiment in which a mathematics program and an English program would be tailored particularly for these people. The problem that we faced was that there is no commercial program specifically adapted to learners who are thirty-year-old, fourth grade drop-outs, twenty years out of school, who have English as a third language. We used mathematics as the first program because it appeared that an English program would take time to devise but a mathematics program could be created as we went along. Furthermore, elementary mathematics does not require competence in any particular natural language in order to understand it.

William Ringle was assigned direction of the mathematics program because of his strong mathematical educational background. The program he devised was a combination of Skinner's operant learning procedures (1958: 969-77), and Watson's "Auto texographic principle" (1928:91).

As the initial pioneer students, two students were choosen from among the young baseball players, one Mexican and one Yaqui. A trial program with these two men continued for two weeks to test appropriatness of the procedures we had choosen. Classes met three times a week at night in an Arizona State University classroom. At the end of two weeks enough material had been accumulated to start a large class and we recruited new instructors from the project personnel.

The new class consisted of 19 men of whom some 14 completed a significant portion of the class work. These included both adults who had been associated with advisory positions in the baseball experiment. The large class was broken up into sections of from two to seven individuals depending upon their background and the experience of our teaching personnel.

We decided not to use the usual formal classroom model for our experiment. First, the lecture situation is not as effective a way to present information or control behavior as is a programmed teaching situation. Since this adult education was for experimental purposes anyway, we decided the more control over the variables involved the better off we were. Furthermore, since the students themselves were dropouts, at least one of the variables was likely to be a history of aversive relationship between teacher and pupil. Therefore, we used as instructors those individuals who had established peer relationships with the Yaqui as members of the previous baseball experiment.

During the first few visits to the campus the Yaqui were taken on a tour of the campus. Visits to the University library, the museum, the display cases in the zoology building, and to the Student Union building were planned and executed. In each case the leader of the group was a graduate student who would later teach the group. His role was thereby changed from the baseball peer role previously created under other environmental circumstances to that of leader and teacher. The object of the mathematics experiment was to provide these Yaquis with a basic level of understanding of certain symbolic relationships among numbers, that would be valuable later on in practical use in house construction. A building program had been suggested as one of the community needs in a number of conversations with the Yaqui, but no overt acceptance of this program on our part had yet ensued.

The relationship between the graduate student instructors and the Yaqui students changed in the context of the classroom. A few individuals who had appeared as possible behavior problems, due to boisterousness, quickly came under the control of the classroom situation.

The first sessions in the formal environment were devoted to shaping up efficient note-taking behavior. In the process it was necessary for the students to pay attention to the instructor, then to write on their papers the same material the instructor had said or had written on the board. A consistent notation system was used in all of the classes, devised by Ringle in consultation with the other instructors and based on the experience with the first two students.

Following the classroom performance in the early sessions the students were required to take home their notes, copy them and bring them into class for correction at the next class period. This procedure was developed so that the students would learn to do home work and could be assured that their homework would be correct since correct behavior was built into the note taking procedure itself. After a few sessions, problems were included as part of the homework and each new class began with a discussion of the correct solutions of the homework problems.

statements such as "Very good" or "Excellent" along with facial and body gestures that indicated approval. Public demonstration of approval was not developed. In many enclaves within a dominant society this sort of public approval is a controlling stimulus for the expression of peer disapproval. In any case, we wanted to bring the students under the control of the experimental situation itself with as little dependence on idiosyncratic teacher-student relationships as possible.

Time-out sequences were developed to allow the students to relieve tension. During these time-outs coffee was served and the students were encouraged to ask questions. Most of the questions were related to the environmental setting the Yaqui found themselves in. They wanted to know what life was like for full-time students in the University. Some of them expressed a desire to continue their education and asked specific questions related to the procedures involved.

At no time was there any attempt to use generalized reinforcers like money to shape up behavior. We assumed from information gathered from the students themselves that the deprivation which existed as result of their inadequate education, was strong enough so that it would maintain behaviors designed to aleviate it.

One deprivation in the society consisted of low paying temporary jobs which provided inadequate financial background for stable family life. Mathematics did not seem valuable to the Yaquis but we stated it to be a requirement in order to take part in English courses which they desired. Our most faithful students came from the group for whom this deprivation was most pressing.

Those who dropped out of our classes were limited to young unmarried men. Married men and middle-aged men continued to take part in the program for the three months duration. Several unmarried men continued throughout the course, listing another deprivational situation which the program served to overcome. This can be best termed as a deprivation of novel stimuli. They called it boredom. The university setting gave them something to do which was lacking in their home environment.

In no case did we use aversive controls. Behaviors incompatible with those terminal behaviors that we desired to inculcate in the students were simply not reinforced. Those behaviors necessary for carrying out the procedures were reinforced. As much as possible, the reinforcement was the self-reinforcement of doing correct work.

Attendance was regular and became a matter of pride for some of the students. For regular attendance some special reinforcements related to the work were made available, such as materials that would be valuable in the English class -- dictionaries, grammars and other educational paraphernalia.

Once the program was well under way, punctuality became a marked habit. At times some of the men missed dinner after working in the fields all day so as not to be late for school. The one occasion in which an instructor was late created a bad learning environment for the Yaqui. They worked slowly and with numerous errors. We replaced this instructor and the previous higher levels of performance were reinstituted.

These two types of deprivation we believe are significant for other programs in adult education. Younger students are fighting boredom. Older students have seen the consequences of inadequate education. Programs designed for these two classes of individuals should make use of these basic deprivation areas. A fuller discussion of this may be found in the V.I.B. paper No. 1, entitled -- Development of Proficiency in the Use of the English Language in groups of non-Western Indigenous peoples through programmed instruction: a study in applied anthropology and community development, by Mark Berman, pages 13-40.

Competitive behavior which developed within the framework of the mathematics class was considered unfortunate from the point-of-view of maximum performance. Competition between students was evident in several ways. The classes that were together for some time tended to work at the speed of the slowest members of the class. When new individuals were introduced, who were not aware of the gentleman's agreement that seemed to have been reached, competition became a disruptive influence.

In some circumstances where rivalry between individuals was based on their outside relationships, competition appeared from the start. One student exhibited behavior of timing his work sections against those of his brother. The younger brother appeared to be quicker than the older brother, reversing a relationship that existed outside of the class. The older brother exhibited anxiety symptoms in this situation which effected his work product adversely.

We decided that with the English program it would be necessary to build a program which allowed each student to work at his own speed so that no competition could begin in the classroom setting. We staggered individuals at the start of the program, adding new students one at a time until we had met the full class complement. The first English program was at the level of a fifth-grade understanding of English. Two simpler levels were outlined. The first represented that amount of control over English necessary to pair English phonemes with the written symbols that represented them. The second level was designed to teach the student procedures necessary to form morphemes in correct phonemic combination.

Since all of our prospective students had had at least a few years of grammar school and demonstrated some control over English it was not necessary to build the first two programs. The third level concentrated on teaching grammar and vocabulary. A fourth program was projected that would teach reading speed and comprehension. The same two students who pioneered the mathametics program were chosen to start the English programs.

The responsibility for designing and testing a level 3 English Program was assigned to Mark Berman. He was required to survey the field of programmed instruction, analyse the faction cores, and proceed to develop a new English course in such a manner as to be adapted to the special needs of Yaqui adults. The fundamental concepts of programming were rigidly adhered to, that is the immediate knowledge of results, reinforcement of correct responses, self pacing, small steps and etc.

Mr. Berman operated from the point-of-view that a knowledge of verbs is the most important aspect of any language. As he says - "verbs are the operants of any language. They act upon the environment in the same sense nouns are the respondants of any language" (1964: 94). Berman's position is borne out in the English Level 3 program in which the position and uses of verbs are handled with attention to this priority. A description of this program can be found in V.I.B. paper No. 1, on pages 40 to 95 inclusive.

After the program had been completed by the first two students revisions were made, depending upon their behavior in the program itself. After reevaluation had been completed seven more students were started in the program, four of whom completed it. Following the completion of the program a battery of tests were given. Each of these tests came in two forms. The first form was administered at this time and the second after further training had been completed. The test were:

1. Otis Group Intelligence Test, Advanced Examination, Forms B and A.
2. Ohio Scholarship Tests, Techniques in Reading Comprehension for Junior High School, Grade 9, First and Second Every Pupil Tests.
3. Ohio Scholarship Tests, Spelling and Vocabulary, Grade 6, First and Second Every Pupil Tests.
4. Ohio Scholarship Tests, Elementary Reading - General Ability, Grade 6, First and Second Every Pupil Tests.
5. Durrell-Sullivan Reading Achievement Test, Word Meaning and Paragraph Meaning, Intermediate Forms B and A.
6. Stanford Achievement Test, Spelling and Language, Forms W and X.
7. Metropolitan Achievement Test, Intermediate Reading Test, Word Knowledge and Reading (Comprehension), Forms Bm and Am.

For the four students who completed Level 3, a Level 4 program had been prepared. Level 4 consisted of review of Level 3 plus programmed work in rapid reading and comprehension. After Level 4 was completed, and the second form of the tests had been administered, a Level 5 program was used consisting of a commercial preparation called Programmed English written by M. W. Sullivan and published by the McMillan Co. This program was not originally intended for written responding but was adapted by changing instructions for the students. Three of the four students that completed Level 4 also finished Level 5.

The individual Yaqui who continued with the advanced training are the same individuals who have become increasingly important as secular figures in activities sponsored by our Project. Berman's description of the results of experiments on which Levels 4 and 5 may be found in V.I.B. Paper No. 2

It became evident that much of the content of the Level 4 material could be oriented to contemporary problems. Selections of reading material that had some intrinsic interest for the Yaqui had the effect of reinforcing the act of reading. Growing out of the Level 3 material were practical questions that were placed in the special discussion class on such matters as civil rights, financial problems, how to open and run a checking account and etc.

After our initial findings in the mathematics project we learned little new about specific Yaqui behaviors. We did discover, however, that there seemed to be cultural preferences that guide choices where alternate problems may be solved in test situations. The Yaqui seemed to prefer to choose the hardest problems they could find in test situations, thereby lowering their scores in relation to a timed sequence. When allowed to go to completion, thereby doing the easier problems as well as the harder ones, their so-called IQ quotients jumped around 20 points. This phenomenon is discussed at some length in V.I.B. Paper No. 2.

The idea that there are culturally determined preferences for types of behavior, given alternate choices, is directly related to the culturally determined different reinforcements available within the same society for men out of the Yaqui sub-culture as compared to middle class, white Americans. These choices may be determined through observation and identified through comparative test situations. The different interpretations of environmental background for behavior may be what the concept of culture is all about.

The three students that finished the Level 5 English course had been in school three times a week for a period of nearly three years operating out of the V.I.B. adult education class. This is a long range performance maintained by consequences within their own culture. These were all men between 30 and 40 who had families and felt themselves inadequately prepared, from the point-of-view of education, to participate in the dominant society. None of these individuals have markedly raised their standard of living as a result of this participation, but what they have done is to have taken a more active role in working with other Yaqui as organizers and directors of community activity. They were all involved in the earlier baseball programs and the later house construction programs. As we phased out our study we left them in charge of the activities that we had participated in in the community.

Third Experiment: House Construction

Our first experience with house construction was a failure. A collaborationist initiated contact requesting help. We responded by arranging for the delivery of scrap materials from construction jobs around the Phoenix metorpolitan area. Community support necessary to make use of these materials did not develop after several months of activity on our part. Consequently this experiment was abandoned.

Some months later a special interest group formed out of the membership of the Fiesta of the Virgin of Guadalupe Society requested us to renew our interest in house construction. Members of this society formed a special secular organization to work with us. Our response was to assure the delivery of materials to help in the construction of models embodying features desireable to the Yaqui and to have a machine built which would produce soil cement bricks of adobe size and general appearance. Because of difficulties in delivery of the machine this project was delayed for some months, but community interest was kept alive by a series of meetings with the building committee. We prepared and delivered models for their consideration. We took them to observe the machine under construction. We supervised the work of 15 boys from the Guadalupe contingent of the Neighborhood Youth Corps in building 3 foundations for houses on lots picked by the committee.

With the delivery of the machine, interest in its operation developed immediately. For some months bricks were made without any attempt to utilize them in house construction. After a sufficient number of bricks had been made to construct several houses, pressure developed within the building committee to initiate this phase of the work. At this time our primary contact was killed in an automobile wreck and it was necessary for us to develop new leadership. An entire reorganization of the building committee resulted, brought on by the discussions generated by this man's death. The woman who had been acting president of the building committee, filling a collaborationist role, was replaced by a man within the Guadalupe power structure.

Building commenced on the site where the bricks were made on one of the foundations that had been completed the previous summer. The owner of the lot did not participate sufficiently in the cooperative labor and the building was abandoned before a roof was constructed for it. It has been standing in this nearly finished condition for over a year.

In order to re-activate the building activity we moved the machine to a new site. Immediately interest in brick-making developed again.

We were concerned with the pattern of attendance which characterized all of the construction work. Men would work for a day or two or three and then not show up for the next week. None of these men were paid for their activities. Most of them were on welfare and consequently not engaged in competitive labor.

A study of the base line culture made it possible for us to initiate a procedure which regularized attendance at the construction site. After a few hours of work we called a halt and had a small fiesta consisting of sharing a 6 pack of beer and talking together. Placing the cooperative work in a fiesta setting gave the Yaqui a familiar pattern. None of these men would be willing to work in the hot sun for several hours for one can of beer. They would, however, be willing to share labor with friends and relatives in a fiesta setting. During one stretch the same men appeared for a period of three weeks, including Saturdays and Sundays, maintained by this reinforcement.

Doors, windows, cabinets, plumbing and electrical fixtures, bricks for cess-pools and other building materials were needed. We arranged with the property control officials at Arizona State University to permit the Yaqui to act as demolition crews on unsaleable houses scheduled to be razed at new building sites for university structures. We borrowed university tools to pull the buildings down, and trucks to haul the materials away.

The men worked without a foreman, each man claiming some part of the material for himself. This was looting behavior. At the suggestion of the Yaqui officers in the building committee we reshaped this behavior. We directed the truck driver to take all loads to the materials dump we had established for reissuing. This change did not decrease the work.

We were approached by men active in the house construction program to help them organize a tax-free corporation so that they might have some legal status. Once they were organized they were approached by the heads of the Fiesta Societies and requested to build a community house. This pattern of interaction between religious and secular officials is one that is common to the Yaqui political structure in Mexico. This was an acknowledgement of the de facto secular governmental funtion of the new incorporated building committee.

A community hall was designed and built on open land behind the

Catholic Church on the plaza. It was completed in time for the Easter Festival and was the center of all preparation required during Lenten ceremonial period.

At this time we made overtures to the Salt River Project requesting them to take over the financial responsibility for the building committee. They met with the building committee in the new community center and agreed to accept this responsibility.

Our field agent had been paired with officials in the building committee to the point where it was possible for him to be faded out. With the appearance of the Salt River Project our own participation in the community could be phased out.

This was announced at a meeting of the building committee. Immediate plans were made to hold a farewell fiesta for the members of our project. On May 25, 1968, the community invited members of the project and other white guests to the fiesta making around 50 non-residents participating in the farewell fiesta. A deer dancer and pascola dancers were ordered from Mexico for the celebration. Local mariachi bands played. Speeches were made. A flagpole was erected and a flag raised for the first time in this community in 40 years.

The V.I.B. project director and the president of the Guadalupe Yaqui Home Improvement Organization led the large crowd in the Pledge of Allegience to the Flag, and V.I.B. project was closed.

Details of the building experiment are set out in Appendix B of this report.

CHAPTER III

THE SURVEY, AND DATA CLASSIFICATION

Anthropological field work is usually initiated by a survey. This in its full range covers a series of activities, all of them important, and many of them neglected. They may be broken down into categories including a review of the professional literature, a search of early historical materials, an examination of contemporary actuarial data, the preparation of adequate maps of the region, and the use of a native informant outside of area of study. These will result in a general baseline description of the present structure of social interaction, and of the processes of change significant in that society. Both are required for guided culture change: the first to provide a standard from which to evaluate induced changes, and the second to suggest how those changes might be brought about. Let us take these in the order that commonly would be most effective in an actual research effort.

Review

A review of the professional literature on any people requires access to an adequate library, and usually begins a year before venturing into the field. The customary practice is to obtain the most recent publication on the area, read it, card file the bibliography, and begin reading through that, adding to the bibliography as you go along. There is no point in taking notes the first time through, for the time spend in this activity would be better spent in further reading until a general familiarity with the data has been created.

Once this stage has been reached, and it can be detected through the recognition of the relatively few bits of new material which occur in new reading, then it is time to select particular monographs and articles for intensive study. Code the selected statements for easy identification, and collect under pertinent headings bits of information identified by source. These headings would eventually have material from several dozen cources available for comparative purposes.

Anthropological monographs are generally abstracted from raw data and presented in an idealized form. They provide only a general guide to behavior that may be encountered in direct contact. Specific descriptions tend to be anecdotal and impressionistic. Reported patterned behavior too often does not include permissible ranges, or extant but devient actions.

Selection of data for inclusion in a monograph stems from two causes. The primary research interest of the anthropologist will lead him to record certain data while ignoring others. His theoretical frame of reference will affect interpretation. This double screening will make alternate uses of reported data exceedingly difficult.

There is no research literature on Guadalupe. A number of standard ethnographies on the Yaqui were consulted, but they were found to contain little of direct relevance. Spicer's book, Pasqua: A Yaqui Village in Arizona (1940) was valuable, but out of date.

In order to get the kind of background data we needed it was necessary for us to establish a field man in Potam, a Yaqui village in Sonora, Mexico, to make direct observations. He lived with a Yaqui family for six months, and at the conclusion of his stay was able to provide us with relevant information.

Actuarial data

Contemporary actuarial data often is available only in the country of residence of the study population. Here again, the control of the contact language is of critical importance. Most countries keep offices that deal with native populations and file reports from field agents. The best access to these files is through representatives of the government in power. The operational agent who does not contact the officials and social scientists of the host country for aid both on this aspect of research and in actual field work has handicapped himself without reason.

An increasing interest in being consulted characterizes both the academic and official interests in countries with large numbers of village societies. With their cooperation access to actuarial data is assured. Without it, the individual efforts of the operational agent contain little chance of success. The easiest solution to the problem of examining contemporary records for actuarial data is to have it done by representatives of the host country. If it is necessary to support this effort financially, it still is cheaper from the point-of-view of time expenditure than undertaking the same task oneself.

The Guadalupe study made use of records of the Catholic Church, the Department of Health, Welfare and Education, the Salt River Project, and the Maricopa County Recorder's office. We would have liked to use materials from the Arizona State Welfare Office and the Tempe Elementary School

District, but they were closed to us. The closer the relationship between the agency and the community, the more sensitive the security regulations seem to be which record that relationship. This is a corollary of Goldiamond's Law:"The rate of institutional change is a function of the rate of its feedback system".

The two most valuable data sources were the County tax records, and the Catholic Church records in marriages and baptismals. The first provided a fairly accurate adult census of the community, and the second gave us several thousand references to the compahdrazgo system. This gave insight into otherwise unexplainable patterns of cooperation stemming from the ceremonial relationships based on sponsorship in these two crises situations.

Ethnohistory

Ethnohistory is a valuable technique for the change agent in that most of the material will be concerned with problems of initial contact, with the impact of new items of culture upon the study group in past situations. These include reactions to the innovations on the part of factions within the native society, and finally with the establishment of collaborationists within the society and their ultimate role there. These situations may be viewed as a series of natural experiments although care must be taken not to accept the evaluations based on single instances as being necessarily correct. At best one can gain some idea of sensitive areas of behavior, and successful and unsuccessful efforts to change aspects within them.

Always in ethnohistorical research, one must take into account the bias of the reporter. Missionaries, soldiers and traders serve different interests. Private diaries may reflect personal prejudices. Government reports may differ in content and orientation depending on whether they are submitted for public or private reading. Authenticity is always a question. Here, the methods of the professional historian must be brought to bear on the problem of making documents contemporary with past events yield accurate information.

Many anthropologists have neglected this source of information in the past,preferring to rely on the recollections of old natives for the data necessary for historical reconstruction. Time has operated in a way to remove most of these people from the scene due to the long history of the press of colonizing powers. No real substitute remains in most areas for ethnohistory.

Under any circumstances the use of documents contemporary to past events is probably superior to recollections of native informants, at least in wealth of detail. Change occurs through time. The effect of historical reconstruction through informant testimony is to reduce the end results of culture change to a flat picture, eliminating the possibility of studying process. Archival deposits of contact information are widely available, particularly with the advent of microfilming, and no excuse for neglecting this material is any longer open to the student of culture change.

In our study of Guadalupe there are no "early" historical materials since the community was established in 1912. There were memoranda, however, to be found in various law offices in Phoenix which dealt with the problems of establishing the Yaqui on the Forty Acres which we investigated. The Salt River Project also opened their files to us, and their records and field reports enabled us to piece together some of the history of the Yaqui in Arizona.

Mapping

Mapping the area of study is most easily accomplished through the use of aerial photography. Most commercial maps are of little value for a village study. Here again, the best recourse is to request help from the host country. Regulations concerning aerial photography often limit this activity to governmental authorities anyway.

It is important to have not only the study village mapped, but the area of economic exploitation surrounding the village as well. From an aerial map a cartographic representation should be made, with conventionalized houses shown recognizable rather than as mere circles or squares as seen from overhead. This will allow its use with an informant from the village as an aid in establishing a census statement. Trails, roads and streams should be indicated, along with other natural features for ready orientation. It is ideal to have two such maps, one showing the village proper in detail, and one at smaller scale with fields included.

The mapping of Guadalupe was accomplished by several means. We first had an aerial photograph made by a commercial firm. We also found a map prepared in the replotting of the townsite archives in the Maricopa County Planning Office. The Maricopa County Recorders Office had entered taxpayers on this base map, which proved valuable if somewhat inaccurate.

We checked our information against the memory of informants, and through first hand observations.

Census mapping is somewhat more difficult than it should be. We found resistence to our efforts at compiling complete information because of sensitivity to pressures emenating from the dominant society. Welfare workers are interested in the identity of biological fathers of children entered as dependents on the welfare roles. Bill collectors are interested in obtaining accurate addresses of delinquent credit customers. In relying on the stereotype that one Indian looks like another to Whites, the Yaqui give misleading information when it is useful to do so.

Informants

This brings us to the use of a native informant outside of his village. Local authorities can in all probability select an individual familiar with the patterns of village life who no longer resides there for one reason or another. It is better to have an individual who has broken village ties for several reasons. First, unwanted feedback into the village about your interests and probable activities is less likely under these circumstances. Second, an individual who has left his village will have a wider world view, and be able to respond more effectively to interview. It is best to pay such an informant well enough so that he will not terminate the arrangement until the desired information has been obtained. This is more difficult to sustain with an individual who is an active member of a native society. Experience has generally been that outsiders asking questions mean trouble for the village and pressure may be brought against an inside collaborator by the village elders to discontinue his help.

One must keep in mind that the likelihood is high that anyone available as an informant on his village who no longer resides there is deviant in some way or another. Continued residence within the village is usually the expected and desired thing. Dissatisfaction with one's lot, unwillingness to conform to local customs, ambitions for a larger share of the world's wealth are all reasons for leaving. The operational agent must therefore attempt to gather data concerning the village in as objective a way as possible.

In Guadalupe, our survey informant was a cripple whose time had no economic value within the community. He was a keen observer, and since he spent more of his waking hours in Guadalupe than did the able-bodied men, knew more about the patterns of social interaction than most other adults.

We relied on him primarily as a source against which to check our actuarial data. He also helped to shape our basic classification system, and consequently his influence on this report is to be found throughout. This was kept secret from his fellow villagers to shield him from adverse consequences.

Our informant was particularly sensitive to questions about the economic conditions of his neighbors. Although the information was probably known to him, he purported not to be sure in any specific case whether or not a family was on welfare. He was also vague about whether individuals from specific families ever worked as agricultural laborers, although at one time he was a labor contractor, guaranteeing to provide a number of men for field work at specific times to local farmers.

We found out through direct field work that many families in this community are jealous of the prosperity of neighbors. Families on welfare occasionally were reported to the county office if neighbors observed members taking day labor jobs. This resulted in a diminuation of welfare funds. Reporting to outside officials was considered extremely unfriendly, and our request for this type of data placed our informant in an embarrassing position. If word had leaked out in Guadalupe that he had given this sensitive data to outsiders, he would have faced ostracism.

Classification

Beginning with the review of the ethnographic literature, and continuing throughout the series of activities designed to gather data before entering the field, the anthropologist faces the problem of data classification. The earlier in the research effort that a classification system is set up, the easier it will be. If the system is inadequate it can be redesigned without an inordinate investment of time if the data base is reasonably limited.

Anthropologists have, through time, developed a series of classification systems into which they have recorded research data. Data reliability is a function of the field methodology employed, and varies from situation to situation and from man to man. The classification systems, however, are artificial constructs which rest on basic assumptions relating to human behavior. A few general types of systems include most of the conventional ones. Adherence to one or another is sufficient to place an anthropologist in one "school" or another, which may be used as a label for his point-of-view.

Systems require assumptions about the nature of data; some aspect of the data must be selected for comparison to derive commonalities, and hence abstract types. Selection is necessarily arbitrary, lighting on one rather than another characteristic, depending upon the bias of the classifier, and, of course, upon the customary practice of the field. An archaeologist, for instance, cannot even separate pot sherds into types without making assumptions of this order. Social anthropologists have more variables to choose from, but necessarily limit themselves to a few so that relatively few classes may be formed. It is obvious that the more variables that are allowed to enter the classification scheme, the more classes will be formed if the variables freely vary.

The anthropologist generally has a classification system in mind when he enters the field. He is accustomed, at least, to thinking of broad areas of behavior like religion, social structure, economics and political organization. These preconceptions are responsible for some assemblages of discrete traits into false functional patterns.

The significance of the interrelations between classes of data are considered emergent phenomena and are meaningful only if not reduced to their constituent parts. Models of these relationships may be constructed on either a synchronic, (static) basis, or a diachronic (dynamic) one. Anthropologists tend to reify abstractions from the emergent level of phenomena and thereafter ignore individual behavior except as demonstration of the existence of the emergent rule.

Where things that are not identical are classed together, the classification is based on some more or less restricted commonality. If the factors selected for comparison are few in number out of a large set of possibilities, the system sometimes forces a strained classification. Hence, tree shrews are considered pro-simians, and closer relatives of man, in a formal sense, than they are of the insectivores, the true shrews, moles,hedgehogs, etc., because of the criteria used for the classification of mammals.

Classification systems create special ways of looking at data which limit the types of comparison possible. If certain commonalities are not listed among the criteria for classification, they are likely to be ignored. Fixed habits of handling data according to set patterns almost insure that unlisted commonalities will be considered as intrinsically insignificant.

Classification systems must be constructed which will permit particular types of manipulation of data for particular purposes. Different sets may be constructed utilizing the data by grouping the data according to different sets of commonalities. This requires that full descriptions of incidents be gathered and filed separately for each participant. The commonalities in the behaviors of one individual under a series of different situations can be observed, along with the differences. Other individuals in the same situations may exhibit parallel behavior, and abstract types of behavior may be set out.

It is important to understand that types may overlap. An individual may be a mother, a wife, an economic producer, a consumer, etc., with sets of behaviors peculiar to those roles. However, another classification set of "married female behavior" may include some part of these types under a single rubric and "female behavior" may include all of them. The classification system emphasizes the set chosen for analysis, and gives the impression that somehow, the set belongs together in a natural fashion. The pre-conceptions of the classifier can artificially establish a Gestalt.

The first step in mechanistic system building, is to identify the system components. Real components exist only within a particular set of environmental circumstances. Human system components consist of individual behaviors. They take place, usually, within a social setting which forms a portion of the environmental circumstances, although no two individuals have identical behavior under the same circumstances. Furthermore, circumstances are only relatively the same. Each individual learns to make appropriate responses in recurrent situations, but his history of reinforcing experience will be at least slightly different from that of all others in his society.

It has been pointed out that systems have characteristics which are not predictable from the capacities of their component parts. This has led to the mystique of the emergent nature of systems. The existence of a special level of phenomena emergent from the interaction of system components is only apparently true. Individual components do not usually exhibit performance capacities in isolation. This is true at least of humans in social situations. If the limitations for performance of each individual position in a social situation have been correctly measured by observing the behavior of individuals in those positions, then the concept of emergence is not needed to explain the operation of systems.

Behaviors should be classified according to the environmental setting in which they occur. The patterns which characterize the behavior of individuals within a given human society, and which are discernable by anthropologists, arise from the differential shaping of many individuals. Cues which are significant to experienced individuals as giving notice of consequences which may follow specific behaviors, are communicated to the young, and potential alternative behaviors are consequently not developed. It makes no difference whether the environment in which behavior is emitted is social or physical, however, for the end result. In any case, the changes in the environmental setting, including those produced by the organism's activities as well as those which occur as a natural event in the physical world, are effective in conditioning the behavior of individuals. Behaviors that have one significance in one setting may have another in a setting different from the first.

An anthropologist who investigated a culture under one set of conditions might not recognize a description of it under other conditions regularly occurring. Even agricultural people usually considered sedentary are only relatively so. The Pima aboriginally took perhaps sixty per-cent of their food requirements through agriculture, with the gathering of mesquite beans and the hunting of rabbits the most important side activities. They did, however, also fish, gather cactus fruit and buds, and hunt deer, mountain sheep and peccary. In four out of five years these activities took place within a few miles of their agricultural villages. Every 4th or 5th year, however, drouth cut the agricultural production to an inconsiderable level, and the people scattered in bunches to find food to sustain them through the bad year, deserting the villages except for those too old or sick to travel.

Changes in social organization accompanied the changes in economy. Among other things, tribal war patterns, which were normally defensive against Apache and Yavapai raids, became aggressive. It was necessary to utilize areas that were avoided in normal years because of threat of ambush. On a longer cycle, the occasional epidemics of diseases coming out of Mexico caused the people to lynch their shamans, and scatter in family groups until one by one they drifted back to village areas, perhaps months, perhaps years after the passing of the epidemic.

What are the stable conditions in human social life on which we can build systems? Pluralistic societies like our own are too complex for representation by simple models. It appears that steady state models of primitive societies are representative only of an instant in time. With the passage of time, the total environment of the social life of any society changes, and a new model will be required to represent the changed situation.

Static representations of a series of instants might well give us something equivalent to a motion picture film if there were enough of them. This is beyond the possibilities of present techniques, however, and likely to remain so. So much time is required to make a single representation that it is unlikely to be a correct picture of an instant in time.

If the models of macro-systems could be corrected to represent only an instant, however, the processes by which differences are brought about would still have to be assumed. They would not be directly observed.

Even micro-systems must be ordered in some fashion if they are to have greater than casual interest. Biologically based activity will serve as a general system, and allow some cross-cultural comparisons. It has been suggested by Julian Steward that ideas about disease consonant with those current in Western thought should be introduced prior to bringing modern medicine into primitive societies (1959: 5-7). A mechanistic approach would posit a contrary supposition. Only those behaviors deleterious to health need change. In stable populations these are likely to be few, indeed. There is no excuse for attempting to change broad patterns of behavior not directly related to immediate problems.

In Guadalupe, our classification system was based on commonalities observed in the repeated behavior of individuals under similar conditions. In some cases there were formal records of these behaviors, as in the Catholic Church baptism and marriage logs. In other cases we observed reoccurrent ceremonial occasions including both public fiestas and private, family ones. Finally, we set up controlled experiments, particularly brick-making, to test certain assumptions about the variables maintaining some behaviors which were peculiarly Yaqui.

Abstraction is necessary for any classification system. The choice of commonalities necessary to bring discrete data together will differ from classifier to classifier. We chose to look for commonalities in behavior, and not in abstractions from behavior (values, cognitive patterns, native verbal explanations of behavior, etc.).

Processes of change

The data, once classified in a general system, should suggest possible avenues for guided culture change, along with some possible procedures to initiate them. This was the case in our research in Guadalupe.

First, we became aware of a patterned hostile response on the part of Yaqui to anything identifiable as Mexican. Yaqui children and Mexican children do not play together. Yaqui adults do not marry Mexican adults. Yaqui men particularly do not like to work either with or for Mexicans. Any change in social behavior, therefore, that depended initially on Yaqui-Mexican cooperation was unlikely to take hold.

Second, we discovered that all public social behavior in Guadalupe was at least ostensibly religious in orientation. The dichotomy between religious and secular behavior is very marked in Yaqui culture. Since there was no secular organization in Guadalupe, there was no way to behave in community-level activities except within the religious framework. The only power structure in Guadalupe lay in the religious fiesta societies. It was necessary, therefore, to win approval of these groups before any program for implementing social change could take place. Furthermore, in order to preserve the Yaqui system, it was necessary to set up a secular body capable of making community-level decisions about secular changes in social life.

Third, it became evident that decisions in regard to inter-family cooperation were made by heads of households, not heads of kinship lineages. Brothers may be on opposite sides of factional disputes. Brothers-in-law might be very close. Both of these situations seemed to depend on the history of the relationship between the men, rather than any formal requirements for cooperation. The cooperation enjoined as "compadres" ; ceremonial relatives in baptismal or marriage sponsorship, were primarily reflected in formal situations. The comraderie between *compadres* was a function of friendship formed before. Setting up the formal *compadre* relationship, friendship was a contributing cause to setting up *compadre* relationships, in fact, rather than the reverse. Therefore, in planning social change, the formal structure of *compadrazgo* was a guide to the existence of previously formed friendships. We could expect cooperation between *compadres* so that if one came into special interest programs the other would be likely to do so. Men with many compahdries make good leaders.

Fourth, we learned that by integrating new behaviors into old systems they were likely to be accepted. The fiesta system is the structure for demonstrating grief, piety, friendship, thanks, etc. It has a number of defineable elements, but the most important is the sharing of food and drink while talking. Other successful community-level activities were cast in this form.

Other insights became more obvious after direct observation, but these were suggested by our classification system. Had we used standard institutional classifications not only those correlations evident from our survey, but those which arose from our direct observations would have been obscured.

CHAPTER IV

INITIAL CONTACT AND SUBSEQUENT OPERATION

Collaborationists

Anthropologists have long been aware of the difficulties involved in making direct contact with the power structure of a native community. Depending upon the culture being contacted, and the agent that historical circumstances have provided for the dominant society, contact may be made through champions, women, children or deviants. In any case the individuals who control sanctions in the community will insulate themselves from direct contact, at least at first. If it so happens that they wish to interact with the stranger, after he has demonstrated his capacity for good or evil, the leadership has no difficulty in setting up a meeting. The trouble which often arises from these circumstances stems from the fact that the stranger has by this time made arrangements of his own for dealing with the host group, and may be reluctant to change them.

The 18th century British fur traders often refused to deal directly with recognized chiefs of Indian tribes in these circumstances, prefering to work through some man who contacted the trader on his own. This man became a collaborationist for the outside interest within his own society. He distributed rum and goods supplied by the trader in exchange for furs or promises of furs. If a bully, he was in a position to use threats if recipients of the goods did not fulfill contracts. In any case he controlled the distribution of goods, and could withold them from one man in preference for another without reference to the power structure within the tribe. That such individuals were disruptive of settled practices is obvious. If the collaborator did not undertake to do the trader's bidding he could be shut away from access to the goods himself. Certainly if he were not among the power elite he would not be able to claim nearly so large a share as would fall to him in the role of collaborationist.

The "rum chiefs" created by the fur traders were usually war leaders in the local power structure. War leaders usually have their authority restricted to heading up raiding parties among American Indians. Leadership is by personal example and may allow sanctions of extreme harshness for disobedience on the war path. A war leader is a champion, not a counselor. In simple societies, composed of a number of more or less independent kin groups, authoritarian leadership is not common, outside of the special kind of situation found in the war party. Secular leadership is based on persuasion rather than feat.

War leaders, therefore, usually had well-defined roles in American Indian societies, and were without special standing in secular life. However, when these same men became "rum chiefs" they extended the authoritarian role from military to secular life.

Collaborationists need not be champions, however; women, children and social deviants may also fill this role. The share of outside goods would ordinarily be small to these individuals of little status. By behaving in the contact situation in ways indicated as appropriate by the stranger, the share of goods may be larger, and the ordinary social control mechanisms normally operative within the community may not operate to curb their fraternizing.

There are problems attendant in the use of collaborationists which we were careful to avoid in Guadalupe. We took particular care not to create any misunderstanding as to our interest in local women to avoid the jealousy of the local males. Women past menopause are usually safe to tease, after sufficient acquaintance, in most cultures, but young women are not.

Social deviants are only marginally influential in their local society, and association with them would have degraded our status. We wished to establish peer relations with respectable people. We were, consequently, reserved in initial contacts to avoid early committments to undesirables within the society.

In most societies, power is in the hands of old and therefore experienced people. However, not all old people are in a position of authority in any village. There are differences in status for individuals, in family prestige, and in competence, for old people as well as for young ones. Old people without a supporting family may well be outcasts. The principle of reciprocity which underlies social relationships in all societies required that each individual have something to give in return for what he receives. Reciprocal relationships fall away if an old person has neither control over the means of production of things to give, nor the physical strength to take such goods from the community land if no private ownership exists. An individual who becomes isolated in these circumstances exists outside of the social fabric of the community, and may well earn a reputation of being a witch. If such an individual had become associated with the project personnel, our research would have suffered.

Children are often sent by adults to follow a stranger in the community and report back on his activities. At first children may be shy, and will avoid direct contact with him. However, in time they will overcome shyness and test the responses of the visitor, and his responses to these advances will in large measure condition the eventual attitudes of adults. Our experience reflected this general case. Our personnel were instructed not to initiate contacts with children, but to allow children to make any overtures they wished. Even then, they were instructed to be passive. A startled child who crys in distress at having been handled against its will may harden uncrystallized feelings within the adult members of a community. The evil eye is widely feared. Undue attention or praise extended to children may make them vulnerable to the malice of evil spirits. Since this is understood by everyone wherever the belief exists, strangers who persist in their attentions to children are assumed to be evil.

In most circumstances the anthropologist will find himself faced with the problem of either dealing directly with some collaborator recognized as a responsible leader by the outside society, or being noncommittal in his contact with him. If permission has been received from the authority to whom the collaborationist reports, little direct trouble can be expected from that source. It may be, however, that approval by the collaborationist is all that is required to assure the anthropologist of failure in his attempt to contact the real power structure within a village.

Whether the anthropologist is contacted by individuals of low prestige within the society with the tacit permission of the power elite, or at their direct order as a probe makes little difference. Eventually those who manipulate the social control mechanisms will make formal advances to him. At that time he must be willing to discard relationships with those who have acted as buffers within the host community and thereafter deal directly with individuals in prestige roles.

This may be difficult if gratitude for friendship shown creates an emotional bias, or if the individual has an official collaborationist role within the village, as spokesman for the outside dominant society. In the former case, it must be remembered that one's personal feelings are not as important as the effect of one's actions on the village in the light of inducing culture change.

After it becomes evident that the agent will dispense reinforcement the leaders of the interest group will attempt to short-circuit the procedure established in the initial trial by a direct approach to the agent. This should be encouraged, even if it means ignoring further requests made by the champion. This does not damage the champion as much as allowing him to become a collaborationist would, so far as his relations with his own society are concerned. As a matter of fact it is likely that he will be chosen in other circumstances to make an initial request on behalf of some other special interest group if the first time was successful, and the collaborationist role has not been established. Factionalism grows around events, but is directed toward individuals. If the individuals are not controversial in themselves, the devisive effect of factionalism is less.

Since there was no organized secular government in Guadalupe, we had no way of directly contacting the community through a visible leadership. An established collaborationist group challenged our right to enter the community without their permission, but we did not respond. Some of these individuals later became supporters of our work.

We used collaborators when it appeared that they were spokesmen for special interest groups. In one case we misjudged the situation somewhat. A man approached us on a community-defined problem, inadequate housing, which we were aware existed. He had not been delegated to speak, however, and our responses were not well received in the community. In other cases we dealt with individuals who had been asked to talk to us, and once effective contact was made with a special interest group, we dropped the collaborationist in favor of a more direct relationship.

If the contact situation is formalized, as is often evident in the history of colonization of non-Western countries by Western powers, classes of collaborationists may arise. These individuals represent the dominant society within their country of birth, and receive their reinforcement from the dominant society. They raise families who are trained in the language of the dominant society, and eventually seek attachment to that society in a collaborationist role.

The clearest example of this in recent history is to be found in South Vietnam. French-educated, French-speaking, Christian Vietnamese, many of them with dual citizenship, control the national government. They are the third generation of collaborationists with Western society. They represent an imperial system, with power delegated down, rather than a democratic one where power is based in the people.

The village people in South Vietnam have limited horizons. National government traditionally has been tolerated because of the security afforded from foreign invasion. French colonialism provided that security until World War II, when the Japanese successfully occupied Southeast Asia.

The present national government has broken the social contract which existed between the village people and the nation. Now young men are drafted to fulfill national security functions, leaving the villages unprotected.

Our government has inherited the legacy of French Colonialism and is supporting the Western collaborationists in power. Since this runs counter to village interests, the peasantry of South Vietnam is increasingly alienated from the objectives we seek for them. Unless we change the orientation of our efforts we will destroy the possibility of a solution to the problem that is satisfactory to the common people.

The power of established collaborationists over the affairs of a local society may be broken by fostering more responsive leadership. We were successful in doing this in Guadalupe. Some individuals that challenged our unsponsored entry into the community have elected to become participants in the newly formed local government. Others have become isolated.

Introduction of specialists

Most modern attempts to introduce and guide alterations in existing patterns of behavior within non-Western societies have been mounted by teams of Western scientists and technicians. Specialization is increasingly common in Western society, and the range of activity in which the specialist may be competent is becoming increasingly narrow. The problems which arise when a large number of strangers invade a small village society are apparent to any observer. Housing shortages, food shortages, dislocations in customary daily social relationships, and inflation in both money and outside material culture items are among the most important immediate effects.

The question arises, how can specialists be introduced into a small society without disrupting it in ways that will make desired changes more difficult? If a team effort is planned, preparation for introduction of the team should be made before anyone enters the village. The most important initial step is the choice of the man who will make the initial contact. This man should be representative of the best features of the stereotype of a Western Citizen held in the study society. He should control the Western technology necessary to demonstrate those aspects of the stereotype which village expectations requires for Western men. At the same time, he should be familiar with the peculiarities of small towns, including the phenomenon of complex personal inter-relationships that characterize small but stable societies. Urban living fosters superficial relationships with large numbers of people, and individuals whose experience is limited to urban settings may not appreciate the differences that exist in the nature of personal interaction in small communities.

We flooded Guadalupe with research people with deliberately vague instructions to determine what personality types would be effective in the contact situation. Some of our personnel found it impossible to work without positive direction. These individuals demonstrated other kinds of immaturity as well.

Any field man who looked at people and saw Indians, rather than people, was a failure. This included both romantics and bigots. It is necessary, however, to respect local custom, and behaviors outside of the acceptable range permitted local people cause adverse talk. We found the most difficulty arose from the carryover of dress and behavior standards for young women in our society to Guadalupe. Young Yaqui women do not drink or smoke in public, do not wear short dresses and do not talk informally with men. Our only successful women field workers were middle-aged.

From the first confrontation with members of the study society, the initial contact man should make clear that he is one of a team, and is subject to control from the not-yet-present team leader. If the contact man wins the respect of the villagers, and defers to the authority of an outside leader, this leader, when he makes his appearance in the village, will have a built-in respect relationship established for him.

This approach was practiced with success by the British in their dealings with the American Indians in the 18th Century. Much effort was expended to arrange meetings of Indian tribes to welcome representatives of the King so that talks concerning military and commercial relations between the British and Indians might take place. These meetings were prepared for in advance by an initial contact agent who embodied in his person many of the qualities respected by the Indians. He could hunt, shoot, drink, walk great distances, etc., as well or better than the young warriors with whom he usually first came in contact. As he was establishing his status as a champion, he was also extolling the virtues of the King of England. He said the King so loved the Indians that he would send them an ambassador, with presents, and these would be given as soon as the initial contact man could assure the ambassador of the Indians' friendliness.

When the King's representative finally arrived, with a large retinue, the power structure of the tribes had accepted the possibility that the great leader of the initial contact man was at least their peer, if the contact man was the equal of their own best warriors. The tribal chiefs were able to sit down and talk with the King's representative, and receive immediate reinforcement for expressions of friendly sentiments through the distribution of lavish gifts by the British on these occasions.

This procedure, which we will call "The King's gambit," has one obvious drawback: it is remarkably expensive for the amount accomplished. The behavior shaped up was that of sitting around and talking, and the contemporary literature is full of requests by the Indians for new conferences, and complaints by the King's treasurer of the expense of those meetings.

A modified King's gambit which employs an initial contact man of the same type used by the British is the one we employed. Instead of promising presents, however, our contact man promised particular kinds of help for specific community projects. This help was made available only after the community had demonstrated an interest by some type of cooperative behavior related to the interests.

When the situation in the village has reached the point where the initial contact man must produce help from the outside, this help should arrive in the form of a delegation from the team, led by the oldest man in the party, regardless of what his real role might be in the team. This leader will be available for consultation with the village power structure and will at least appear to evaluate the village's initial cooperative effort. If he approves the initial effort, he will arrange for the appropriate expert with the necessary technological equipment to expand the new activity. The leader will be insulated from contact by his small retinue except from members of the village power elite. He will return from time to time to bring additional reinforcement in the form of new experts, or new supplies, but otherwise will be quartered in a nearby city.

Ideally, the apparent leader should also be the true leader of the research team. His name would be on the official correspondence as the responsible officer in charge of the team, and he would act as liason man with the representatives of the host government, a role easier carried out in the city than in the village. Sometimes this ideal arrangement is not possible, and the true leader may be the initial contact man, or one of the experts. If this is true, roles must be assigned so that the internal structure of the team is not discerned either by the villagers or the representatives of the host government.

What is wanted here is to keep the contact man as the avenue for initiating new projects, and the expert as a repository of special information, which may be made available to the village. Once the expert's job is done he may be removed from the village without disrupting communication between the contact man and the community. His job is done when the special interest group is ready to operate the new technology without help.

Experts should be self-effacing. Control of a novel technology is surrounded by an aura of mystery even in our society. If the expert is flamboyant the possibility of confusing his personality with the successful control of the new technology is a danger, If the villagers are allowed to see that nothing magical is involved, and simple steps will lead to the mastery of the techniques, the likelihood of this being brought about is heightened. We strive to reduce the variables in the behavioral equation to those significant ones. A self-effacing technician is easier to fade out of a contact situation than one that has become involved in many aspects of community life. If the technician is obviously controlled by the contact man assurance may be given that he can be brought back into the village at need.

The real relationship of the two men in the research team may not be as represented to the village, but again, playing appointed roles as set out is important.

The experts called in as part of the aid pattern that is used to reinforce cooperative community action should be different from the initial contact man so far as role is concerned. Where the contact man is conversant with many phases of Western technology, the expert need be competent in only one. While in the village he should report ostensibly to the contact man to keep the illusion of structure alive. He should not operate outside of his area of expertize. Quarters will be found for him by the contact man, food will be supplied from this same source along with requests for supplies and etc.

In Guadalupe our contact man fielded all requests for help, and sent them through channels to the project headquarters. When we reached the stage where requests became routine, they went directly from the field man to lumberyards and other stores. Eventually we were able to give responsibility for ordering directly to the Yaqui without going through channels.

Early in the pattern of introducing experts into the village as need for their services is indicated, some effort should be made to provide a probe to investigate changes peripheral to those sought. Responses to the initial contact man by villagers will follow a pattern which will make it difficult for him to objectively observe these peripheral responses.

One way to bring in a probe, who should be a professionally trained anthropologist, is to introduce him in a minor capacity as an assistant to one of the technicians. When the technician leaves the village, the assistant is left behind to service the equipment. This gives him a reason for being around which will not take up much of his time, and allows him quietly to observe the responses within the community as a faceless man.

This is a good post for the real, as opposed to the apparent leader, of the research team. From this vantage point decisions may be best made about changes in procedure, acceptance of new overtures by interested groups, detection of the village's actual power structure and other policy matters. This individual may play with the children, flirt with the women, drink with the young men and gossip with the oldsters without compromising either his position or those of the villagers.

It will not take the villagers long to discover him as an ally and to conspire with him to introduce new changes, or alter the procedures of those in progress. This conspiracy will not be noticed by others of the research team, and will be denied if brought to their attention by factional parties. This latter development, in turn, will serve as a guide for the probe in his relationships with the villagers.

Guadalupe is only six miles from the Arizona State University campus so most of our personnel lived outside of the community. We thought it advisable, however, to establish a probe to create feedback on our activities. One of our research staff had spent six months living in a Yaqui community in Mexico, spoke Spanish, understood Yaqui, and had not hitherto been openly associated with our project. We had him establish himself as a lodger in a house whose inhabitants had not worked with the project. From this vantage point he was able to advise us on community sentiment regarding our work.

Introduction of programs

By this time the question "What are you doing here?" has become urgent, and the answers become some version of "What did you have in mind?"

The question can be interpreted as a request for help. Some requests are unreasonable and should be ignored without alienating the petitioner if possible. When some request is made within both the interest and the competence of the change agent, involvement may follow.

The change agent will make a deliberate choice of areas of behavior in which he wishes to contact the study community before he enters it, allowing some possibility for alternative choices for special local circumstances. Then when he is approached by the individuals delegated by special interest groups to speak for them he can make appropriate expressions of interest. Particularly, initial involvement within a village should be in some area in which there has been previous rewarding experience for people of the village in relation to outsiders. Recreation, education and medicine are three likely areas of successful contact. If one has teaching experience, or medical training, or is a fine athlete or musician, he will choose his experience area for initial interaction, if possible.

First choice of an activity should be one not only within the area of competence of the agent, but one that does not stand as a primary institution. If a series of other activities are dependent on the one under consideration so that change will have broadside effects, it should be avoided. If, for example, young men may get married only when their families agree to build them a house of their own, it would be a mistake to respond to a request on the part of young men for help in house building. If older men with marriageable sons make the request, and will take responsibility for labor supervision as they would ordinarily, it is possible to help. In the first instance, help would disrupt a series of social relations between young and old within the family. In the second instance, the relationships are preserved and the changes introduced in technology are not connected to dissention within the family.

Waiting for a commitment on the part of the people serves two purposes. First, it is necessary to determine in advance whether the activity for which help is requested is one of legitimate concern to the people of the village. The change agent does not wish to be associated with failure. Second, it is important for a successful entré into the community that the agent be in a position to reward the behavior of individuals who contribute time and effort to a project he has been asked to sponsor in some way. Behavioral patterns are more easily established if they are reinforced as soon as they are emitted. Sponsorship usually means money or something that can be bought for money in the restricted world of the change agent. The chief exception to this rule is the possibility of bridging communication gaps between village people and the dominant society outside the community. Keeping in mind the principle of immediate reinforcement the two types of requests are handled in the following manner:

1. If a request is made for some material aid, the first consideration must be whether it lies within the limits of possibility circumscribed by the conditions under which the agent is in the community. If not, care should be taken to inform the people of the village as to the reasons in order to give them better criteria for their next response. If the help is possible, the conditions under which it will be forthcoming

should be clearly stated. If, for example, it appears desirable that an open town meeting be called by the interest group to explain the program proposed, and to obtain some favorable consensus from the village elders before proceeding, then this condition must be met prior to any further reinforcement. If it is met, the reinforcement should be presented immediately, and publicly. If some activity is required, such as preparing a baseball diamond before receiving a gift of baseball equipment, as soon as the public announcement is made of completion of the task,the equipment should be publicly presented.

2. If a request made for aid is bridging a communication gap between the village people and the outside world, the aid should be given only if the possibility has been prepared in advance. Before the agent first visits the study community he should contact the bureaucratic officials responsible for representing the government in the village. It is important that contact be made at the highest responsible level available to the anthropologist. One descends down the channels negotiating with the officials at each level carrying the approval of the officials immediately superior. Arrangements should be made at the time for the possibility of introducing members of the village up the bureaucratic chain.

It is important that the initial procedures in this instance include the choosing of a representative of the people to make the formal presentation of the complaint to the bureaucracy. The agent accompanies the representative, and coaches him, but stays in the background as much as possible. If there is any difficulty the agent may request the bureaucracy to back up its promises to help, and if necessary, may carry an appeal through the proper channels until the community's petition is given a sympathetic audience. If possible the problem should be solved in the first level of contact. Not many village people will go through the motions of an appeal in the agent's absence. The agent must try to build behavior that will have a future pay-off.

In Guadalupe we were dealing with a truncated bureaucratic system. Little contact had been developed between the various caretaker agencies responsible for welfare and other services to the community. This allowed us a certain freedom of movement which would not have been possible had we been working with an Indian tribe under the supervision of the Bureau of Indian Affairs. Consequently, we met conflict situations as they arose, demonstrating to the people the proper avenues of appeal where they were relevant to the problem.

It is possible that a procedure exists within the community of privately rewarding leaders of public activities, particularly if the activity is one desired by the dominant society outside of the community. This is to be avoided by the change agent. He should not be identified with the outside interests who wish to change the village patterns. Private gifts do not stay private in village societies. If one pays the contact man, he becomes the agent's creature in the village eyes, a collaborationist. His claim on the agent may become a source of embarrassment, even if denied. Particularly it will make the transition from dealing with the champion-contact man to dealing directly with the interest group's real leaders very difficult.

We avoided any extra reinforcement for leadership in Guadalupe. No one was ever paid in money for services. Sometimes extraordinary expenses connected with community service sponsored by the project were reimbursed if the service could not otherwise be performed. This was always done openly, however. We were, therefore, in a position to refute the occasional rumors that community leaders were in our employ.

Factionalism

If the culture change agent is effective, his first sponsorship of special interest group activity is likely to generate reactionary behavior on the part of persons not members of that special interest group. It is necessary to determine whether the reaction stems from official quarters or is unorganized individual protest. The agent presents himself as the tool of the special interest group. It is the groups' responsibility for reaching some understanding with local officials. This will be facilitated if the agent has demonstrated a willingness to now deal directly through the special interest group rather than through some contact man who may originally have acted as a go-between.

If the reaction is unorganized the agent must be careful not to create a permanent anti-agent faction by treating che protesting individuals as enemies. There is no point in deliberately in creating a factional party against one's own activities. Therefore, the agent responds only to those stimuli within his social environment to which he wishes to respond. If he does not make himself a stimulus in whose presence behavior on the part of villagers is punished, other behaviors will be emitted by these individuals in the future. If at that time these villagers are behaving in a way which the agent thinks is appropriate, he may then reinforce it. As long as he is in control of his own behavior he is relatively free to select what he will reinforce and what he will not reinforce.

In Guadalupe we avoided confrontation with the collaborationist faction whenever possible. We were trapped twice into making a public defense of our activities, but in each instance waited until we were asked to do so by the village power structure. The defense, therefore, was a defense of the village against the outside.

By not punishing dissent villagers for hostile behavior, we left open the possibility of future friendly contact. In several instances we were able to intervene directly with caretaker agencies when their treatment of families hostile to us had been inadequate or unfair. In a community like Guadalupe crisis situations are more difficult to deal with from an economic point-of-view than for people established in the dominant society. Help at these times may be critical. When extended, it tends to change attitudes so that enemies are converted to friends.

What the agent is looking for is behavior. Remembering that a reactionary protest is designed to re-establish a status quo, the agent may endeavor to find out what consequences were maintaining the behavior to which the complaining individual wishes to return, and offer those consequences as a reward for support in the new project.

If a significant part of the environment is changed, so that stimuli-events or consequence-events are altered, this situation may act as a stimulus for a type of behavior on which to restore the status quo. When a considerable number of individuals in a community engage in corrective behavior of this type at the same time we call it factionalism. The most vociferous individuals may have a momentary role as spokesmen for other disturbed people in the community, and even act as leaders if cooperative action is employed. These roles may change so that today's reactionary may be tomorrow's innovator.

When factionalism reaches the stage that some resolution is required to reach a new equilibrium in social relations, the power structure must act. This usually takes the form of an invitation to the agent to meet the village council.

Since there was no village council in Guadalupe it was necessary to provide the circumstances under which one could be developed. The building committee became a de facto government when it was recognized by the religious power structure as the proper agency to undertake secular activities necessary for public religious ceremonials.

The powers and activities of the council structure are circumscribed by community-wide interests, although any member may previously have had some relationship with the agent as a member of a special interest group. In a formal interview with the village council, however, friendship may not be presumed upon, because of the special status occupied by members of the council while assembled. A call from the council means that the effect of his presence has spilled over into the areas which lie within the authority of that particular political body.

This does not necessarily mean that the agent is in trouble. In fact one way to meet the power elite in their official capacity is to arrange such contingencies. If there is a formal hearing arising from the factionalism there will be formal charges. If these can be explained away in the context of the agent's behavior it is possible to salvage the work, but only until the next series of unfounded charges bring another hearing.

It is better at this juncture to remove the basis for the factionalism. This means to accept the complaint for what it really is: a reaction against changes that threaten the dissenting group. An offer to expand operations to include those threatened, if correctly placed in the particular framework of the study society, will serve to indicate an objective approach by the agent which will be difficult to fault. In no case will the agent admit to the truth of unfounded charges, because, among other things, this will reflect on the integrity of villagers with whom he has been working.

Contacting the power structure

The makeup of the council will be a valuable aid in determining what the next move is. The survey will have uncovered whether the social structure of the community is vertical or horizontal, or some combination of the two.

Vertical structures are composed of groups of families related either in the mother's or the father's line of descent. The oldest members of these families usually are in an authoritative position in relation everyone else so far as family matters are concerned. These older people are apt to be the most conservative members of the group and the most vulnerable to changes within the society. Not only do they have the most to lose, they are the least flexible from a physiological, as well as a psychological point-of-view.

Horizontal structures are those in which age-mates cooperate with one another in tasks which the society holds as appropriate to that level of maturity. When we class babies, children, teenagers, men of military draft age, young marrieds, and finally, senior citizens as separate categories we also set out expected types of behavior for individuals in those classes. We recognize that they have different interests and different aptitudes than members of other groups.

In our society, the senior citizens have a respected advisory position, although they are no longer expected to be in either a productive or decision-making position. Their style of dress is expected to be different from that of teenagers and the styles are set to conform to the tastes of the separate groups, and not imposed from above. This means that if the most important relationships extend up and down a lineage instead of out to age-mates, it will be difficult to change much of the society without the help of the older poeple. If a horizontal bias exists, one may work with young to middle-aged men and induce changes in their behavior without conflicting with the somewhat different interests of older people.

In Guadalupe old men are respected and asked for advice, but decisions are made by those most closely effected. Perhaps family heads had more real authority a generation ago when first marriages were commonly arranged by parents. Even then, vertical structuring was a family rather than a societal pattern, however.

The practice of ceremonial sponsorship in baptism and marriage creates bonds between peers and their children. This effects only two generations and extends the family model to non-relatives. Respect and mutual help rather than obedience is emphasized.

Even in the religious fiesta societies age is not the most important criterion for leadership. Individuals join the societies by personal vow. The vow can cover an offer to take leadership as well. One of the two captains of the Easter fiesta at this time is in his 60's, the other in his 20's. Over-all authority is in the hands of the older man because of his experience, but it is experience and not age that is critical.

If the council is of older men, and the project participants are younger men, the issue at stake in any hearing is likely to be one of control within the system of the young by the old. Short of starting a revolution, the agent has no recourse but to comply with council demands. If the council has young as well as old members to cover special interest groups, the issue is more likely to be factional in origin. The more people who become involved in project work the broader the changes may become. As long as the agent does not become a partisan for one group as opposed to another the possibility of using a conflict situation to expand the community involvement is good.

Invitation to meet the power structure should come from them, not the anthropologist. Insulation from outside contact is a perogative of power. Contact can be unpleasant, or even dangerous. Those individuals who control community sanctions do not have to place themselves in this vulnerable position. Any forced contact is threatening if only because of the demonstration of power involved, and should be avoided.

In Guadalupe, we were asked to meet the fiesteros of the Virgin of Guadalupe, and asked for help. Two years later we were asked to meet the fiesteros of the much larger Easter society and asked for similar help. There is some overlap in membership, and our performance in the first situation was responsible for our second invitation. We required in each instance a public request before we would respond, which is in keeping with local custom, and validated our activity in this area. Otherwise we would have been faced with rumors that as anthropologists we were trying to buy our way in to discover religious secrets. There are no religious secrets in Guadalupe comparable to those guarded by the Rio Grande Pueblo Indians. There is, however, a strong feeling in Guadalupe against commercializing the religious festivals which we also wished to observe.

Phasing out

The most difficult undertaking in community development is to engineer a withdrawal that doesn't destroy the newly structured community organization. The dependency that grows around the successful activities of outsiders in a marginal society is impossible to avoid at all stages of the work. Until leadership arises that is both responsive to community demands and competent in the contact situation, much of the relationship with the outside world must rest on the community worker. Unless local leadership exerts or is developed, the new activities dependent on contact will fail when the change agents leave.

Merely bettering communication between local people and the caretaker agencies is not enough. Agency roles are defined by agencies, not clients. Therefore, increased efficiency in agency-client relationships has the effect of increasing client dependency.

In Guadalupe the phasing out was carefully planned. First, it was important to instill confidence in the people that our presence was not necessary for the maintenance of ongoing programs. We, therefore, helped them undertake the ambitious project of building a community hall of 1500 square feet. Throughout this period we required them to make decisions about architectural design, allocations of limited funds for materials, and labor management. We were certain that they were ready for these decisions before we thrust the responsibility on them. The hall was completed, and was considered successful.

Second, we found them a dependable source of funds. The relationship between the Yaqui and the Salt River Project has been close for fifty years. The Salt River Project is a tax-free irrigation and power company which has wide voluntary service activities within Arizona. Once the Yaqui had an organization that auditors of the Salt River Project could credit funds to, it was possible for them to make official allocations upon request. We set up an agreement between the Yaqui building committee and the Salt River Project which has already gone into effect. Plans have been laid for a long-range program designed to furnish building materials for Yaqui housing.

Third, we established avenues through which the Yaqui could reach the dominant society without going through caretaker agencies. A permanent graduate seminar in Public Administration at Arizona State University has been established to provide help in planning and initiating new programs. The goal is eventual merging with the Mexican-controlled Guadalupe Organization so that plans can be drawn to incorporate a town. The Yaqui will need help in establishing a peer relationship with the Mexican community so that they are not brought into the merger as second-class-citizens.

Fourth, we established a client-lawyer relationship between the building committee and a private law firm in Phoenix. The Yaqui are free to call on this firm to represent them in any action which constitutes a legal threat against the village. The continued public control of the Yaqui plaza will be assured despite maneuvers which constantly arise which would attempt to force the dislocation of ownership for some private party.

CHAPTER V

INSTITUTIONS

Human social behaviors may be studied separately from cultural content, much as ant or termite societies may be studied. Observation of regular interactions between human beings in any society permits the formulation of abstract models of normative behavior for that society. The possibility exists that a few dozen models could be constructed of social behavior which would cover the approximately 3,000 different extant cultures which have been catalogued. Society then is the matrix within which culture is embedded.

Within any model there will exist a number of more or less separate systems -- communication, kin-interaction, economic behavior, political organization and religious ceremonial life, to name the most important ones. These systems are usually called primary institutions in the social science literature. Secondary, or derived institutions like education, war, art, values, and games are often no less important in the culture but are dependent for outward form on primary institutions. Change in the structures of a secondary institution, therefore, will require other, preceding changes in primary institutions or at least be consonant with the structure of primary institutions.

A single item, or complex of items of culture may be borrowed from the outside by a native culture and integrated into an existing pattern of behavior without measurably altering that pattern. This occurs usually where the addition is compatible with existing behaviors.

Behaviors incompatible with native practices have often been forced on village societies in the past by agents of technologically superior cultures, but nearly always at the cost of drastically disorganizing the village society.

The survey undertaken by the anthropologist as preparation for work in the field should make it possible to delineate primary and secondary institutions, at least as frames of reference. These institutions may be considered as semi-closed systems -- the functional interrelationships which they may have with other institutionalized behaviors are relatively few. This means that the particular sets of controlling stimuli which may be described within a culture and given taxonomic labels are significant only under appropriate and different environmental conditions. An individual may exhibit economic behavior and religious behavior nearly simultaneously, but the controlling stimuli for those behaviors may still be independent of one another.

When we say that some institutions are primary, and others are secondary, or derived, we mean that the controlling stimuli for behavior of the institutionalized secondary type has power because of antecedent circumstances that belong to the primary institution. Law is a secondary institution because the form of the rules depends on the economic system. Farming communities may have laws covering individual or family property rights in particular pieces of land taken through labor from common ownership. Hunting communities may have laws covering usufructuary rights to larger areas where game may be found for all those living in localized contiguity, in opposition to the rights of individuals from other communities. The environmental situation is different for the two groups since different types of behavior have been shaped up for the inhabitants of the two communities.

Since culture change starts with changes in primary institutions, it must be planned in relation to those institutions. Direct participation in community life by a change agent may be restricted, at first, to a non-sensitive secondary institution. The participation will be successful, or not, however, in relation to whether the participation is correctly structured to conform to the societies primary institutions. It is necessary, therefore, to understand what primary institutions are, and how they function in the study community.

Economic Institutions

Economic usually refers to the production, exchange, storage and manipulation of wealth, where wealth is understood to refer to particular goods or services whose value is measurable in price.

Modern economic anthropologists assume rationality in human affairs. Maximizing is the rational strategy governing choice situations, and assumes that the costs, gains and risks will be weighed and brought into any decision-making process. Local valuation provides the standards for costs, gains and risks.

If a man seemingly has two choices and accepts one, rejecting the other, according to this strategy he must have made a rational decision. Costs may be measured in goods, social disapproval, physical labor or any number of factors. Gain also is considered to have many aspects, not all of them economic. Risk may vary with gain-and-loss magnitude. The individual makes no mistakes. He knows what weighting to put on the myriad factors.

Trying to determine what the variables are which condition the choice an individual makes in culturally rational terms is difficult. If correct weightings for the variables can be given, however, the choices are automatic, and predictable. It is not necessary to deal with internal, mentalistic variables for correct analysis of the overt behavior. Choices are mechanically dictated by the individual's history of experience which gives the particular weightings for potential costs, gains and risks which he employs.

The most significant area of classic economics for the structuring of human interactions is the economics of distribution of goods and services. This is usually tied to the consideration of the production of economic surpluses, which has been usually considered a major determinant of (economic) cultural complexity. Economic surplus is created when a worker produces more than he consumes. Taken from the point-of-view of single organism research, all human societies produce economic surplus.

Consider the problem of food supply in a simple hunting society. Vigorous men perform the work that produces food. Dependent upon each hunter's skill are the non-producers who for reasons of age, extreme youth, pregnancy, etc., are excluded from active participation in the hunt. It does not add to understanding of the problem to state that "the family is an economic unit," or "the band is an economic unit," because one can say with as much justification "a capitalist society is an economic unit."

No matter who shares in the surplus created by the worker, unless the participant contributes directly to the production of that surplus, he is a non-producer dependent for survival on economic surplus. A share in the surplus may be earned through capital investment, through cooking food or through begging. In each case, dependents must perform particular behaviors in order to manipulate the environmental setting so that food is forthcoming. Receiving food maintains those particular behaviors. Once food is in the possession of a dependent the dependent becomes a food source and a part of the environmental setting for some other dependent. A mother may give food to a child, a child to his dog. Each transaction may be considered a new event for the purposes of analysis.

In Guadalupe there is no economic autonomy, from the point-of-view of production. There is no land for agriculture, no local jobs for cash income, and no cottage crafts to produce goods for the market. Agricultural field labor for white farmers, maintenance jobs for the Salt River Irrigation Project, and domestic labor for white housewives bring in most of the community's earned income. State welfare payments are an important source of cash. However, the same dance-drama, cult groups, and religious practices which set off the Yaqui of Potam, who are economically independent, from the other Mexicans of Sonora also serve to set off the Yaqui of Guadalupe from other Mexican-Americans in Arizona.

The mechanism by which integrity is maintained for those ceremonial practices most characteristic of Yaqui is related to the distribution of surplus, not its production. There is a series of occasions in Yaqui culture during which individuals gather at someone's house to hold funeral rites, anniversary of death rites, baptismal celebrations, wedding receptions and the like. Individuals who have established reciprocal gift relationships are invited to attend. They bring gifts of food, and receive gifts of food from the surplus accumulated at the party to take home with them. One may bring little and take much if his circumstances warrant this behavior. Village-wide fiestas are based on the same principle, but everyone is welcome to participate.

Some individuals, particularly those who live alone because their families have died out or moved away, may drop out of reciprocal relationships of this order for the reason that they have nothing to give. People stop inviting them. They increasingly exhibit differences in behavior from those customarily sanctioned and they eventually are isolated. Such persons may gain reputations as witches, They may have overtures made to them on this basis, and may even respond if it becomes the only way of gaining a share in the distribution of economic goods.

In Guadalupe there is much jealousy of others directly related to the scarcity of material goods. Sharing is grudging, and often follows the minimal participation allowed by the rules governing required exchanges under ceremonial circumstances. Cheating on the Welfare Department's regulations concerning the reporting of outside income by welfare recipients is reported to the Department by neighbors. Since there is less than enough to go around comfortably, the Yaqui feel that they enhance their own chances to gain an adequate standard of living if others do not gain more than a fair share. This attitude is rational only in a closed society, and seems out of place here where all of the economic support is engendered outside of the community. The distribution of goods and services within the community, however, operates as if it were a closed system, and this is the important consideration to understand.

Being trusted with public money in Guadalupe is a mark of high esteem. The community response to any crisis is to take up a collection for the people involved. Door-to-door collections are taken up to finance a wedding or to console a widow. During Lent, weekly collections are made to pay for food for the participating sodalities. Collections are always made by groups of men, and the proceeds are publicly counted when the collection is finished. The man who holds the money until it is disposed of in accord with the purpose for which it was collected, is an acknowledged leader. If the trust is abused, as it sometimes is, the fault will be laid against the man's character from then on.

Social Institutions:

Terms such as family, clan, household, co-residence unit, etc., refer usually to sets of individuals who have set relationships with one another prescribed by custom. Relationships may be based on formal contractual arrangements, such as marriage, or rest on a specific blood tie. These sets of individuals have interests in common with one another in that their social interaction is regular and reciprocal in nature.

Terms such as community, band, village, society, etc., usually refer to more than one of the sets of individuals with regular and reciprocal social relations. Some gain exists for these sets in close association through localized settlement. Availability of marriage partners, advantages in large numbers for labor tasks requiring numbers of cooperating individuals, defense of territory, and of stored food are a few of these.

Competition exists between sets for access to specific food resources, marriage alliances, distribution of surplus, if any, and direction of mechanisms of social control. Conflicts of interest between members of a set are resolved within the set if at all possible. When members of two different sets are involved, community level mechanisms are required to settle disputes.

We should consider how these family, as contrasted to non-family, sets of behavior are inculcated into individuals. From birth through infancy the most significant portions of the environment of a human are his immediate family, and particularly, his mother. The infant learns that hunger pangs and diaper discomfort are environmental conditions which may be changed through the behavior of crying. The baby manipulates its environment, causing changes to be brought about in it and these results will increase the behavior of crying under similar conditions in the future. Eventually the baby learns to cry in the presence of other human beings as they are a necessary part of the environmental setting before the changes can be effected. This is no special condition. Other animals learn the same way: that is, they perceive stimuli which give notice of consequences which may follow specific behavior on the part of the perceiving organism.

Since a baby is perfectly able to discriminate between other humans by their appearance before it can talk, its behavior is shaped so that the presence of specific individuals are necessary prior to the emission of that behavior. If only family members handle it in such a way as to alter the baby's environment the baby's response to their presence is such that the baby is said to "recognize his family." It is not customary for babies to be handled by individuals outside of the family circle in most societies. In fact prohibitions are common. The fact that babies will demonstrate emotional upset in the presence of strangers is in keeping with the responses of other organisms under anxiety. Anxiety is brought about by exposure to novel stimuli. A scene created by an hysterical child in an emotional response to a stranger if followed by sickness in the child, will create a superstitious cause-effect relationship to be drawn between the stranger's interest in the baby and the illness.

The consequence of illness is common enough to have occurred accidentally following anxious behavior on the part of babies subjected to the novel stimulus of handling by a stranger to result in "evil eye" concepts in any society. Adults in an infant's family are shaped by these occurrences to guard against exposure of a child to outside contact. Adults respond in the presence of a child in such a way that allows the child to further discriminate between individuals through which it can expect successfully to alter its environment and those it cannot. As a child becomes more mobile, its personal environmental horizon broadens to include other individuals. Differences in the reactions of these individuals to exploratory responses on the part of the child allows the child to distinguish "family" from "non-family" as an abstraction.

"Family" consists of that part of the human environment of the child that can be manipulated by the child's actions to create predictable alterations of his environment. "Non-family" is less amenable to this kind of manipulation. Among other things, family will feed you; non-family will not. The adult behavior is shaped in much the same way as in the "evil-eye" complex. A child who becomes ill after eating food given it by a non-family member may be considered to be poisoned or bewitched. Irregularity of this occurrence would single it out for attention when compared to food regularly received from relations. These behavior patterns may be carried by the child into adult life so that no adult will accept food from anyone not a relative except during community feasts.

More specific example of the learning patterns of children in discriminating between kin and non-kin are unnecessary here. Anthropologists in their first field study learn to check impulsive gestures to children or suffer the consequences of family disapproval which will have a marked adverse effect on rapport. Socialization of the child, that is, the shaping of its behavior so that it is appropriate in extra-family situations, is not so obvious, and discussion is necessary.

Human social communities are delimited by the number of meaningful relationships which have been established among individuals. Group size for Australopithecines was between 10 and 200. This corresponds almost exactly to the range of size observed in baboons. Since both are plains-living, primarily vegetarian forms, the comparison is of particular interest. Sahlins (1960) has estimated the size of bands of primitive human hunters to be from 20 to 50. The local group in recent gathering and hunting people appears to be no larger than that in baboons, showing that the human way of life does not necessarily result in an increase in size of the local groups (1961: 92).

Optimum upper limits have been suggested by anthropologists to be about 500 individuals based on observation of social communities in different cultural settings among North American Indians (Kroeber 1955: 305). Larger stable communities are possible only when procedures have been developed for delegating responsibility to specialists in social control mechanisms.

When the social group gets so big that adults cannot maintain face-to-face relationships with each other, division is likely to occur. Children grow up not knowing each other well, if at all, and those patterned reciprocal behaviors which characterize adult life in small communities do not develop. Stress situations which arise in all small communities are usually dissipated through formal channels when adults have long-term relationships extending in time back to childhood. When these formal mechanisms have not been developed due to lack of contact, stress will create factional sub-groups within the community, eventually leading to dissolution of the group itself.

Our experience as a species with large social units is limited to comparatively few generations, and is not notably successful as yet. Even in urban settings men seem not capable of establishing over a few hundred meaningful relationships.

The differences in organization of behavior within social units having relationships set by limits of consanguinity and affinity as contrasted with those constrained by polity have been recognized from the time of Sir Henry Maine to the present. One of the common tests of a rule of behavior is to examine it for exclusiveness of application within one or another of these frames of reference, particularly in the breach of the rule. An indication that the structure of a society is breaking down, may be directly observed in the relative incidence of appeals to community councils for solution of problems involving inappropriate behavior of individuals within the kin group.

In Guadalupe we found that our original contacts led us to members of family sets as we expanded our operations. Through matching our census materials with new contacts we were able to gauge the size and composition of the sets. We were also able to establish important and relatively unimportant kinds of relationships by observing the order of introduction of relatives. It was evident, for example, that the relationship between brother-in-law was equated in social usage with that prevailing between brothers. Less important, and more formal were the relationships between compadres. These distinctions became significant for the experimental tests of variables controlling individual behavior.

The most nearly autonomous social unit in Guadalupe is the household. A man, his wife, his children and possibly step-children, and sometimes a parent, aunt, uncle, sister or younger brother would make up a typical household. The 1960 U. S. census showed that between 8 and 9 individuals were in each forty-acre household, a figure that our research substantiated.

Relationships between households, based on blood kinship in either the husband's or wife's line, friendship, and in formal circumstances compadre relationships made up the formal types of alliances, with relative importance in the order given.

Competition between households was mostly limited to those few positions of established ceremonial importance. Since economic gains might stem from having responsibility for collecting money to support the fiestas, but in actuality responsibility for running a fiesta was an economic drain. Arrangements for a ceremonial are time-consuming, and require the arranger to miss work.

Political Institutions:

The mechanism used in establishing the political structures in primitive communities is the same as with other primate groups: dominance. In human societies, it is more common to speak of leadership rather than dominance as the focal point for political activity. It is, however, the same phenomenon. Here it is useful to distinguish between a leader and a champion. A champion stands alone, and achieves reinforcement through his solo efforts. A leader involves others in cooperative activity.

Champions may be respected for their strength and prowess without being leaders. The Eskimo bully may for a time dominate lesser men. If his tyranny threatens everyone's existence, other men may unite behind a leader and destroy him. Where one individual can initiate a behavior and that behavior is a stimulus for a dozen other men to respond so that they may receive some reinforcing consequence, we often speak of the group behavior of the men. Actually this is an abstraction based on isolating the commonalities in the behavior of the dozen individuals. As a man acts on this discovery, and finds himself with help, he has become a leader; he has followers. Leadership is learned behavior, as is followership.

Those individuals who discover procedures for inducing cooperation on the part of other men do so only under appropriate circumstances. Those circumstances form the environmental setting of the individuals, and are recognized when they recur. Individuals learn when it is appropriate to initiate leadership activity and when it is not through differential consequences attached to earlier efforts. Leadership activities are effective only when the results of cooperation are reinforcing to the followers. Plains Indian families left bands led by unreasonable chiefs and joined others where leadership was in the hands of better men. The usual complaint against the unreasonable chiefs was that they overmanaged. They attempted to lead in ways that were unnecessary from the point-of-view of the followers.

If, for whatever reason, the role of "leader" in a community requires classes of behavior which are strongly reinforced, then more individuals will emit these behaviors than that society can reinforce in any constant fashion. When an individual emits a behavior (within this class) which is not reinforced, the lack of reinforcement is aversive. Since genetic potentials and past experiences differ for every man, some men will be more effective than others in this effort, and the consequences of their efforts will control future attempts. Several leaders, each with a nucleus of followers, may emerge in any social unit in relation to the same activity. Individuals who have successfully led followers, and have been reinforced are likely to attempt to repeat that behavior when the appropriate circumstances occur. Those who have tried to initiate cooperative behavior in others, and failed, are less likely to try again. Loyalty to leaders depends on the reinforcement the leader has made available to past followers.

Leadership is not often a full-time job, even in complex societies, because of the many roles each individual fills. In simple societies, such as the Shoshoni of the Great Basin, weather shamans, hunting shamans and curing shamans operated independently of one another. When active, they mobilized the members of a family or a larger temporary social unit as a cooperating group working toward a common end for a period circumscribed by the situation itself. Here there was rarely any leadership above the family level, and temporary leaders were common men most of the time.

The social interaction between a leader and followers may be regarded as chained behavior, from the point-of-view of the individual initiator. The rest of the group forms the environmental setting for the initiator. The environment is altered in a predictable way because the individuals who compose it have had their behavior shaped accordingly, and perceive the initiator's behavior as a stimulus.

There is more to the initiator's environmental setting than other people, however. The physical environment plays a significant part in providing the appropriate setting for leadership behavior. Hunting, fishing, farming, warfare, and ceremonials, to mention a few possibilities in which particular types of leadership may occur, are all geared to seasons, in most societies. In addition, particular locations within a group's total range may be utilized at different times, and call for particular types of leaderships.

The ecological setting is crucial, but is best not divorced from the social setting for purposes of analysis of "appropriate environmental conditions." Social behavior is adaptive to particular ecological conditions. Adaptation is learned. In this sense territoriality is a function of reinforcement regularly forthcoming within particular geographic bounds.

Lorenz notes this for water shrews, and calls these patterned behaviors "habit-paths." A water shrew retraces its steps along a familiar route, looking under every rock where it has previously found food. If it loses its way it searches frantically for a point of reference before continuing its food quest (1961: 107). Humans also form "habit-paths."

When an ecological setting is usurped by an alien group, the one which has been reinforced for utilizing it in the past has an accustomed patterned threatened. The alien group is a novel addition to the environmental setting, and where exclusive use is required for effective exploitation, it creates a condition incompatible with established reinforced behavior. This underlies territorial defense of boundaries by human societies, a phenomenon usually considered in the light of political action.

Human societies have repeatedly invented a certain additional political response which seems to be limited to that species. This is the expedient of delegation of authority. This is common among human societies and seems necessary for the formation of large aggregates of people living in a series of more or less self-contained units comparable to village societies. Each unit will have local leaders who represent the neighborhood within the town council. Large communities numbering many thousands of people may form on this principle, without the economic base of industrialization; for example Tenochtitlan, in Mexico, or Timbuktu in Africa. These rural-based urban centers were trade markets, of course, but were maintained by the same kind of agricultural land use patterns as those characterizing village societies in the same localities.

Delegation of authority is an extension of the same process by which leadership is established in individuals. Leaders chosen by groups on a basis of a face-to-face interaction join other leaders chosen by other groups, to negotiate on solutions of problems common to all. Where the invention has not occurred, groups are limited in size by factional disputes.

Rarely, but occasionally, factions become crystalized and become stable divisions themselves. Even more rarely the community life may be destroyed and a migration of one faction may provide the nucleus for a new village. This becomes likely when the community becomes too big for easy face-to-face relationships. Kroeber has suggested that below 200 members and above 1000 it is difficult for stable communities to exist. Kroeber refers here to communities composed of more than one major lineage (1955: 303-34).

Factionalism has much in common with environmental situations created by territorial invasion by alien groups. When accustomed practice within the group is threatened by some novel behavior on the part of some individuals within the group, a reactionary response by those threatened is predictable. Where there has been no delegation of authority, such factionalism is common. The permutations in ecological setting along with competition for leadership insure the conditions for factional dispute if no delegation of authority has been established. This is comparable to conflict between champions for scarce reinforcements.

All political activity of social groups may be examined as the behavior of single organisms in describable settings. For proper explanation, the settings must include both the particular ecological situation and the social activities of other humans. The activities of individuals under these conditions are learned, and may be traced through the particular history of experience of each individual in those describable settings.

In Guadalupe we learned to distinguish between leaders and champions, and work with individuals filling these roles in ways required by societal organization. We found that delegation of authority was carried out by particular processes, and that delegation of authority was transitory, depending on the nature of the circumstances. We discovered that each new activity that was sponsored within the community automatically produced counter-activity by individuals not directly associated with the changed patterns of behavior. We learned how to withdraw sponsorship and leave the new pattern intact under local control. These discoveries were crucial to the experimental procedures we applied.

No real secular government existed in Guadalupe when we entered the community. A structure existed through which white agencies contacted the community, but this was an extension of the dominant society, and rested on no native institutions. The Yaqui agents of White society attempted to bring our programs into line with those of other agencies, and objected to our refusal to do so. Since we were not in conflict with roles of other agencies, however, we were able to overcome this difficulty. Of particular significance was the necessity to assure them that our interests were not in conflict, since fears had been raised that this was the case.

Guadalupe is an unstructured community outside of its religious institutions. This is due, at least in part, to its relative newness. So few local options exist, outside of the fiesta system, that it resembles a city suburb more than an autonomous village. The closing of the Salt River Project work camps in 1956 was responsible for a heavy population influx, and a new friction due to overcrowding. In spite of the need for community organization, none developed spontaneously.

Religious Institutions:

Religion seems to have two basic functions. It provides grounds for the rationalization of standard behavior, and it validates sanctions against deviations from standard behavior. In the process, the elaboration of details may become so marked that religion becomes an obstacle to social interaction.

Religion commonly serves as explanation for custom. Myth cycles, sacred in nature, often are recounted in ceremonial situations to instruct people in proper behavior. Usually measuring current patterns of social interaction against origin myths serves as a control on deviance, where it is understood that the origin was established by supernatural agencies.

Not everything in man's environment is susceptible to rational explanation at a primitive level of culture. When rational knowledge of their cause is lacking natural forces which sometimes exhibit destructive powers are beyond comprehension. Explanations, mythic in style, may adequately account for unusual catastrophic events, even if they may neither predict them nor control them.

Malinowski states that magic operates to explain inadequacies in man's control of his environment. Where technology is adequate to exploit particular resources, that exploitation will be secular. Where it is inadequate, magic exists. Men attempt to influence supernatural forces, purportedly in control of aspects of the environment, to use that control beneficially to men (1965: 444).

Religion is also related to inadequacies in technological control of environment. Agricultural people dependent on unpredictable rainfall, such as the Hopi, have much of their religion oriented toward rain. The Yaqui, also agricultural, have a dependable rainfall, and were aboriginally more concerned with disease as an area of religious orientation. The prime distinction which seems to be made between religion and magic is that magic works and religion works if the gods will.

The second of the two basic functions of religion is to sanction the behavior of men. Customary activities are maintained within acceptable limits by punishing deviance. The punishment may come at the hands of one of a society's agents, or it may be exhibited by all members of the group. The whipper of the Kalispel who beat wrongdoers at the behest of the chief and village council is an agent. The gossip and ridicule which women direct at a cowardly man among the Kwakiutl is a direct expression of a community's disapproval.

Often underlying the punishment is the religious sanction: particular behavior is good or bad, relative to a socially shared standard (Firth, 1961: 42-3). The system of values which embodies the standards ultimately rests on convictions emotionally held by individuals.

An action ay be morally right in itself, without direct references to the supernatural. Because supernatural ordinances are right in themselves, and constitute moral action, the sanction of morality may be stretched in most societies to have some religious significance.

The functions of religion in society are based on values held by individuals. These values are considered to be the internalized, emotionally held beliefs which are widely shared in particular social settings. The beliefs, themselves, are dependent on individual experiences of anxiety states, in particular the fear-awe state associated with the presence of supernatural phenomena.

The term "numinous" is often used to characterize a presence whose nature is indicated by the feeling of awe or fear it invokes. Anyone who has been frightened by inexplicable stimuli has experienced the numinous, particularly if the conditions are otherwise unfamiliar. Being alone at night, or in the woods, or in a strange house are ideal conditions to encounter the numinous. Belief in supernatural forces is predicated on this experience. The universality of religion can be understood to be a function of the fact that these experiences happen to everyone. Natural phenomena which have exhibited forces dangerous to man yet are out of reach of his technological control, are present everywhere. Thunder, lightning, wind, heavy precipitation, earthquake, are all sources of experiences with the numinous.

Religion generally deals with one additional phenomenon: the charismatic leader. Individuals have arisen throughout history in times of crisis to profess solutions to the problems besetting their societies. Handsome Lake, Tecumseh and Sitting Bull are figures prominent in the annals of Indian-White contact as charismatic leaders.

The message carried by these men may not have originated with them, but, in any case, they delivered it to responsive followers. In each instance a way of life had been endangered by contact with a technologically superior society. Established mechanisms of social control were breaking down. Old patterns of social and economic reciprocity were in dissolution. The reaction to these developing situations was reactionary nativism.

At the core of reactionary nativistic movements is found a religious movement, usually distinct from old practices, but serving as a vehicle to validate measures designed to reestablish old practices. Of interest here is the role of the messianic leader. Whether they advocated peaceful ritual, as did Handsome Lake, preached forceful expulsion of Whites, like Tecumseh, or some combination of the two, like Sitting Bull, does not alter the underlying sanction. Whatever measure was advanced carried a religious rationalization.

It is not necessary to assume that some supernatural force was acting, to explain the effect of a messiah on a dislocated society. The historical circumstances alone may account for the success of such individuals in attracting audiences. Circumstances wherein religion is not the validating principle for reactionary nativism also occur. Modern revolutionary figures often specifically reject religion as an institution of the "establishment,"and cite other validating principles for their activity.

Religious behavior is learned like all other human behaviors. The processes involved in learning: discrimination, reinforcement, etc. are the same, regardless of environmental setting. Experiences in closed societies have uniformity for people within the same limitations of age, sex and other status positions. The consequences of acts are similar for such classes of individuals. This is true regardless of whether the behavior occurs when the individual is alone, or with a group similarly occupied. The religious forms are shaped by reinforcements present within the social environment. Regular environmental settings which an individual may discriminate as family, kinsmen or fellow - townsmen may provide reinforcement for different types of religious behavior.

Family ritual relates to useful arts and to crisis rites. Family religion is primarily magic, however, and concerns secular activities. These activities are maintained by the fact that they are associated with consequences which are predictable most of the time. Under circumstances in which established practice fails, a situation may arise in which novel stimuli are present and which require the intervention of an individual equipped to handle the numinous. An individual may be experiencing difficult childbirth as an example, and a shaman may be called to aid the midwives, not with the process of birth, but with activities designed to permit the midwives to proceed with their business by removing the unnatural barrier to the normal process.

Sick people get better, corn grows, rain falls, the bears don't eat the children, most childbirth is successful and puberty is a natural state. Unforseen consequences such as accidents, prolonged drought and sudden death may be associated with real or unreal stimuli. In any social unit, the circumstances attendant on catastrophe may indicate the liklihood of repitition of a similar catastrophe at a later date.

Values, which are often validated by religious tenets, may be discussed from a scientific point-of-view. The abstraction from real behavior made by members of a society, as verbal precepts embodying ideal behavior, are statements of value. What is valued is the reinforcement which a history of experience has conditioned each individual to expect following action appropriate to an environmental setting. Specific acts may be valued because they commonly bring particular reinforcements. Values held by social groups are spoken of as shared by individuals within the groups. It would be more accurate to say that the same individuals had similar histories of reinforcement.

Ritual, which figures so prominently in religious practice, is the sort of elaboration of behavior pattern which is formed by accidental reinforcement. Anxiety states created by threatened loss of reinforcement or of injury to an individual usually recur because the environmental settings responsible for them recur. Subjective experiences are not amenable to field investigation from a scientific point-of-view except in terms of the circumstances surrounding them.

Guadalupe may be described as a democratic theocracy. Men vow to take part in the ceremonial rites connected with Easter, the Fiesta of the Virgin of Guadalupe, or the Matachine Society. Each occasion requires that leadership should be chosen by the participants anew. Certain men who have demonstrated acceptable leadership characteristics in the past form a small pool of specialists from whom the new year's leaders may be chosen.

Attempts to control the religious ceremonials by Yaqui agents of white society through their contacts outside of the community are persistent.

These are resolved by heroic means, but never permanently. The collaborationists gain their reinforcement almost completly through their role as agents of the white society, and the native community had no persuasive sanctions to extinguish this behavior. We helped in establishing contacts with the dominant society for representatives of the religious hierarchy so more effective control of possible interference was established.

Both family and community level religious ceremonial flourishes in Guadalupe. Family ceremonial is based on the *compadrazgo* system. *Compadres* who sponsor the crisis rites of baptism and marriage also assist at funerals. They are considered "official family." The anniversaries of deaths, which require family fiestas, include compadres of the dead person as participants. Every week, in Guadalupe, a family fiesta is held, and after a first night of prayer, a second night's celebration is held which is open to the public. One may party once a week if he desires.

The Yaqui say of themselves "The (Catholic) Church is the heart of the Yaqui way of life." At least for Guadalupe this is true. The Yaqui Lenten festival is the one most integrating occasion during the year. It is also the most obvious difference between Yaqui and Mexicans in the eyes of both peoples. As long as the Lenten festival is held, there will be a distinguishable Yaqui culture.

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APPENDIX A

OPERANT PSYCHOLOGY *

by

J. A. Jones

Introduction

Anthropologists customarily have limited themselves to the investigation of the patterned behavior of men in social settings. The effect of social or cultural patterning on individual behavior is assumed to be prescriptive. The structure of the patterns is treated as a discoverable reality, as for example, in the grammar of language.

Majority opinion in anthropology tends toward the structuralist position that social phenomena must be treated as if they took place in groups of people. That is, the locus of behavior is the group, not the individual. Since psychology is the study of mental processes, there is obviously no field for it here because there is no group mind.

If a group is defined as a number of individuals bound in a net of social action and reaction, then the individuals may be considered as components of a larger system. In a system of regularly interacting individuals, regularity will be sought as lying within the system as a whole, not within its individual components. With this point-of-view, the structuralists either ignore idiosyncratic behavior, or use it as

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This paper has been written several times and read in various stages of development by Mark Berman, Lilian Jones, John Kunkel, Helen Sherer and Peter Stein. The wording often reflects their good counsel, but the overall organization is the responsibility of the author.

a measure of range permitted by the structure.

Group behavior, to be considered a legitimate area of investigation, must generate characteristic data not found in other contexts. This, precisely, is what structuralists believe to be the fact. Not only is the restatement of social problems in psychological terminology considered reductionism, but the restatement of social phenomena in any individual context is so considered.

The conventional argument against the use of any form of psychology as a level of explanation of social phenomena rests on parochialism. This is evident in Beattie's statements, "Social anthropology is not the same kind of study as psychology...The interests of these two disciplines are different then, though their subject-matter is in large measure the same. Sociology (and with it social anthropology) can no more be reduced to psychology than biology can be reduced to chemistry" (1964: 25-7). Discipline boundaries are guarded against trespass by other disciplines by a proffer of respect for the territory of other disciplines. Within each discipline, then, an orthodoxy must develop to prevent misunderstanding of the boundary limits, and to lessen the possibility of boundary incidents.

Some thoughtful anthropologists have been concerned with the neglected role of the individual and have sought to account for variable behaviors within a particular setting. Sapir, Benedict, Mead, Linton and Hallowell all pioneered in this area. Dozens of contemporary students of these scholars have developed increasingly sophisticated procedures based on their early work. All professionals in the field have been influenced to some extent by their efforts.

This minority opinion proposes a special progression of (1) child-raising patterns, (2) adult personality, (3) adult behavior patterns (including child-raising patterns), and (4) culture (as an abstraction from adult behavior patterns). Such a dynamic sequence with each phase dependent on the preceding, ties social interaction to individual behavior, but it is circular in operation. Phases (1) and (3) are arranged so that they feed back into each other as a closed circuit. This fits the static model of social organization based on a concept of equilibrium. The approach is not useful, however, in accounting for behavioral change since no theoretical provision exists by which change may occur.

There has been no development of interest in the use of experimental psychology procedures in anthropology, although these procedures are particularly well suited to one phase of anthropology: guided culture change.

Experimental psychology

There are a number of basic approaches to psychology, but the great distinction is generally made between the clinical or psychodynamic approaches and the laboratory or experimental ones. A few anthropologists, Malinowski and Whiting for example, have been influenced by the experimental approach. Most anthropologists associated with the field of personality dynamics in cultural settings have been clinically oriented, however.

Experimental psychology is concerned with research problems on two basic kinds of human behavioral responses: those that are innate and most strongly reflect genetic inheritance, and those that are a function of environmental setting (i.e. learned). Physical anthropologists are interested in the genetic-based behavior, while social anthropologists are more concerned with the learned behavior. These two, unfortunately, are often confused.

Genetic-based behavior

The approach which characterizes research on genetic-based behavior, is the respondent conditioning research field developed by Pavlov (1928). In respondent conditioning, a neutral stimulus (one which has no power to elicit a response) is presented to the organism for a brief period prior to the presentation of an unconditioned stimulus (a stimulus which elicits a response without prior conditioning). After a number of pairings of the conditioned and unconditioned stimuli the conditioned stimulus will come to elicit the same behavior as the unconditioned stimulus.

Pavlov used bells and lights as conditioned stimuli and food substances as unconditioned stimuli. After a number of trials in which the two kinds of stimuli were paired, the conditioned stimuli alone came to elicit the response of salivation; hence, salivation here was a conditioned response.

In operant conditioning, on the other hand, the behavior to be conditioned must first occur for any shaping process to take place. Operant behavior is a function of its consequences. It acts or operates on the environment to produce changes in the environment. It is not elicited. It is emitted.

Goldiamond emphasizes the sequential differences, stating "Where stimuli are paired with reinforcement, in operant conditioning the reinforcement is made explicitly contingent upon the response, whereas in respondent [Pavlovian] conditioning it is not. In respondent conditioning, both the conditioned and unconditioned (reinforcement) stimuli, tone and food, precede the salivary response. In operant conditioning, the discriminative stimulus, the tone, precedes the response, but reinforcement (food) is presented only if the response occurs" (1962:291-2).

Operant psychology

Within the literature of experimental psychology is an approach called operant psychology. For our purposes, a history of its development is not necessary. The pioneer work of B. F. Skinner, brought together in his book The Behavior of Organisms, is the earliest authoritative statement of the approach (1938). Good coverage of the modern literature in operant psychology may be found in readings edited by Bachrach (1962), Krasner and Ulmann (1964), Ulrich, Stachink and Mabry (1966) and Verhave (1966).

Operant psychology has developed a special technical jargon that makes it difficult for non-professionals to read. The three basic terms are stimulus, response and reinforcement. An operant response is one which is under the control of the voluntary nervous system. It is an act of the striated muscles. A stimulus is an environmental event which precedes the response and gives notice of probable consequences which will follow a specific response of the organism. Reinforcement is the environmental consequence attendant upon a response.

Stimulus and reinforcement must be defined in terms of each other. A stimulus may be considered controlling only if it signals to the organism that there is a probability of a particular consequence that will follow a specific response. A reinforcement may be considered significant only if it alters the rate of response in the presence of a controlling stimulus. There is no automatic relationship between stimulus and response, however. The organism must learn that for it, a relationship exists. Furthermore, having learned this, an organism may or may not respond, depending on its physiological state. The reinforcement must have the power to alleviate a deprivation of the organism on the particular occasion for it to be of significance in altering the rate of a particular behavior at that time.

Reinforcement may roughly be characterized as reward or punishment. A reward, or positive reinforcement is either an alteration in the environment which would alleviate a deprivational state of the organism, or would allow the organism to escape an aversive situation in the environment. A punishment, or negative reinforcement is an alteration in the environment which would either remove the probability of positive reinforcement or increase the probability of establishing an aversive situation in the environment. Simply, a consequence that is either a good, or removal of a bad is a positive reinforcement. A consequence that is either a bad, or loss of a good is a negative reinforcement.

The operational model for operant psychology may be stated as follows: If a particular response is emitted by a single organism in the presence of a stimulus and the response is followed by a reinforcement the probability of that behavior being emitted again in the presence of that stimulus is raised or lowered depending on the nature of the reinforcement.

Long sentences make for difficult comprehension and some psychologists use diagrams to explain operant conditioning. The most widely known is the series constructed by Fred S. Keller. Keller's paradigm is:

$$\begin{array}{l} S^{\Delta} \\ S^{D} \xrightarrow{\qquad\qquad\qquad} R \xrightarrow{\qquad\qquad} S \\ S^{\Delta} \end{array}$$

"In this diagram, the S^{D} indicates the stimulus [also "cue" and "discriminative stimulus"] to which the operant has now become attached, and the S^{Δ}'s indicate the generalized stimuli that have lost their power to [set the occasion for] the response [R](1954: 18)." The S indicates the consequence following response that modifies the rate of its emission. This consequence is generally called a "reinforcing stimulus" (Ibid: 7).

Organisms learn to emit particular behaviors only under particular stimulus conditions. This is known as stimulus control. Change is an ongoing process and the organisms' responses are in themselves a part of that process. The environment does not wholly determine organism behavior, it establishes boundary conditions in which particular responses by the organism will create changes in the environment which will in turn alter the rate of emission of that type of behavior on the part of the organism. Consequences are not always pleasant, so the rate might go either up or down.

Discrimination between stimuli is dependent upon differential consequences being attached to those stimuli. Neutral stimuli are different in that their presence will have no consequence for the organism. If the same behaviors are emitted in the presence of two controlling stimuli, then they belong to the same phenomenological class for the subject organism.

There are differences both within and between species as to the kinds of stimuli which can be established as discriminative stimuli: (due to differing genetic makeup and conditioning history) and the kinds of reinforcement effective to alter or maintain ongoing behavior. Complexity, however, is considered a property of the environmental setting, not of the organism. This arbitrary position removes the necessity for considering internal variables as critical. Only changes in the environment, and in the experimental subjects' responses, which can be measured, are considered data. If earthworms do not respond systematically to verbal command cues, response is described as having zero occurrence.

Complex environmental settings may be created by the experimenter by setting up a situation which requires the organism to emit different topographies of behavior depending on the presence of different discriminative stimuli. The stimuli cue the organism to different behavioral consequences. Depending on the circumstances these stimuli may be presented alternately by the experimenter, or produced by the behavior of the organism. Different discriminative stimuli may even be presented concurrently, requiring responses from the organism that are incompatible with one another. It is apparent that environmental conditions may be set up in the laboratory comparable to those found in the "real" world.

The distinction between respondent or reflexive behavior and operant behavior is labored here because most anthropologists are not familiar with the differences. Respondent behavior is of limited interest in anthropology. Operant behavior, however, includes most overt actions and is of compelling importance in our field.

General principles underlying operant psychology

Operant psychology is not so much a general theory as a series of scientific procedures, but it does rest on certain general principles, held in common with other biological fields:

1. Man is a natural animal subject to the operation of the laws of nature. The problem of a special creation for man was solved by Darwin's successful attack on the immutability of species. Species specific attributes of human beings are not considered by biologists as either mysterious in origin, or as particularly exotic in nature compared to those of other species.

2. The proper approach to the study of psychological phenomena is through observation of single organisms. Modern scientists control the environment of an organism under observation, varying one aspect at a time to discover whether the environmental changes will result in behavioral changes. This experimental approach under controlled conditions only makes the observation easier; it does not change the nature of the organism.

3. It is possible to make valid observations about internal aspects

of an organism's behavior. With specialized laboratory equipment, certain physiological changes may be detected that accompany more overt manifestations, but the means for such detection are unavailable in ordinary circumstances. In any case the intervening mental component postulated by some students of human behavior is presently inaccessable for measurement. Science only deals with what can be observed and measured.

Procedures in operant psychology

Procedures are the methods by which the psychologists manipulate the environment and so alter the behavior of the subject organism. Procedures are to be distinguished from that class of phenomena which constitutes the behavior of the subject organism. The psychologist may set up procedures which will shape a test subject to learn to discriminate between stimuli. It is the organism which learns discrimination, and for this reason discriminating is not considered a procedure.

We stated that it was the procedures that were important in operant conditioning. Much of the published literature deals with different types or rates of behavior characteristic of particular species under narrowly controlled environmental conditions. While there have been thousands of these experiments reported, there seems to be a lesser number of basic procedures which have been developed. We may set out those few of particular value to anthropologists. In doing so we are not trying to reflect the major interests of professional psychologists using this approach, but that portion of their activity which is pertinent to anthropologists at this period in history.

1. Depriving

Physiological mechanisms which operate within the human body are responsible for such conditions as hunger, thirst, and such sensations as discomfort and pleasure. These can be described in terms of electrochemical reactions without reference to innate drives or emotions. In fact, a human body is an energy converter and its functions can be described accurately within the limitations of physical science.

Our approach here is that human behavior is a biological phenomenon. It is accepted that food is desirable to a hungry person, as water is to a thirsty one on biological grounds. It does not help our explanation to attribute a special psychic cause to this universal condition since it is one we share with many other species.

Psychologists take advantage of the biological organization of an experimental animal by deliberately limiting access to some aspect of its environment to produce an imbalance that the animal will work to change. An animal in this condition is said to be "deprived," and is ready to be cast into the experimental situation.

Types of biological situations other than a need for food or water may also be exploited. For example while most psychologists may require a water-deprived animal to emit a certain kind of behavior to receive water as a reinforcement, it is possible to set up an experiment in which an animal will drink large quantitites of water to earn an opportunity to emit another kind of behavior. Limiting access to sexual activity, company, light and warmth, among others, (depending on the species) may be used to create a state of deprivation.

Deprivation may occur in nature without reference to an experimenter. The environment may change so that actions once successful in gaining reinforcement may become less successful. The organism itself may become less efficient due to injury or age, and therefore create a state of deprivation.

With human beings living in free societies deprivation may not easily be brought about deliberately. It is difficult to have complete control of deprivation in anything but prison societies. There are conditions, however, that result from patterned social interactions which are in themselves depriving. Hunger occasioned by joblessness within a family, resulting from inadequate skill training is a deprived state. The anthropologist does not have to bring this biological state about by manipulation of the environment; it is created for him. All he has to do is recognize its existence to bring other procedures into operation.

2. Satiating

Satiating is the procedure which is the opposite of depriving. An organism will respond to change its environmental setting when it is in a deprived state. The psychologist will deliberately create a deprived state in his subject organism by withholding something from it, such as food or water. As the organism gains access to whatever he has been deprived of, eventually the induced state changes. An organism which has overcome a deprivation state is satiated.

Deprivation and satiation are relative conditions. In common language we may speak of a man being jaded, hungry or ravenous so far as his appetite is concerned, and be referring to his relative state of deprivation for food. Every bite a man takes puts him one step further toward being satiated, so his physiological condition is constantly changing. From the point-of-view of an outside observer all that can really be domonstrated is whether or not an organism is eating, and at what rate.

Anthropologists have described customs of food getting and storing among pre-literate peoples. Where techniques for preserving food have been discovered, people will seek food for use beyond the needs of immediate consumption. A man may work for food when he is not hungry so that he will not go hungry tomorrow. Satiation will occur even under these circumstances, however. What it takes to satiate is subject to various environmental as well as physiological differences. The anthropologist is in the best position of any social scientist to observe how great the range is under natural conditions for the human species.

3. Adapting

Adapting is the procedure by which an organism is accustomed to the presence of novel stimuli.

In the experimental laboratory, an organism must get used to its surroundings before it will systematically respond to controlling stimuli. In a strange environment, surrounded by novel stimuli, it exhibits what is called anxiety. This is a physiological state, and includes an increase in heart beat, altered endocrine flow, altered respiratory action, etc. The novelty effect wears off when the new stimuli are not associated by reinforcement, and the organism's physiological state returns to normal.

Anthropologists are familiar with this situation. The appearance of a field worker in a village is a novel stimulus to the residents. He may represent a threatened loss of established reinforcement in the role of innovator, tax official or missionary. He may be there to spy out religious secrets. His presence creates anxiety for the villagers until he has demonstrated his innocuousness. To avoid being asked to leave, his best response until people get used to his presence is to do nothing at all. Unless generalization has taken place based on previous experiences with outsiders, the anxiety state will disappear, and he can begin his research. By not reinforcing responses based on generalization, it is possible that those responses eventually extinguish. In either case, he will be acting on operant principles.

4. Shaping

Shaping is the procedure for changing the rate of specific behavior under particular conditions through differential reinforcement. The most common technique used is that of successive approximation. This technique requires that the experimenter have a performance criterien for the subject to meet. Reinforcement is made available to the subject in successive trials only as performance levels become progressively closer to the criterion.

Experimental psychologists vary the nature of the discriminating stimuli and the type and frequency of reinforcement to produce different rates of response. There are characteristic curves produced, recognizable to psychologists, as a function of responses under variant environmental conditions.

In the experimental situation, shaping is under the control of the experimenter. He decides what the discriminative stimuli will be, the type and mode of presentation of reinforcement, and what response topography will be reinforced. Reinforcement may follow responses which occur in certain temporal patterns as well as for different response topography. Consequently, the experimenter creates the condition for significant behavior for the subject organism. Specificity, therefore, is subject to the experimenter's control and manipulation.

In free environments specificity is controlled by the conditions which prevail. It is up to the anthropologist, working with free societies of men, to determine what these controlling variables may be. Observation of the responses of individuals in specific environmental settings will allow the anthropologist to abstract commonalities both in the settings and in the responses of individuals. In operational anthropology some of the environmental determinants may be brought under control in situations comparable to those of the psychologists' laboratory.

5. Chaining

Chaining is the procedure by which "one response may produce the stimulus for the next"(Keller, 1954: 23). The prerequisite condition for chaining is to have established one behavior of the subject under environmental control through shaping procedures. The experimenter than may proceed to shape additional behavior that must be emitted before the previously established one will be reinforced.

If, for example, a child is required to finish its milk before it is given dessert and has established this as a behavior pattern, then the child may be required to finish both its vegetables and its milk before dessert. Successive approximation may be used in each case: 1/4 glass, 1/2 glass, full glass as performance criteria before reinforcement in the first case; one spoonful, two spoonfuls, all spoonfuls in the second case, followed by a full glass of milk and eventual reinforcement (i.e., dessert).

Men in social settings emit chains of behaviors which have been recognized as patterned by anthropologists. Chaining is evident in such diverse activities as driving a car on the freeway or participating in a corn dance in the Pueblos. Each individual has his own particular history of experience which bears on his performance as a driver or a dancer.

Most observable behaviors of adults are likely to be chains or fragments of chains. Practice melds the separate responses into a smooth flow, and makes for a performance which shows continuity. The differences between the behavior of little children and adults in a line of Pueblo corn dancers show relative stages in chaining. A more immediate example is obvious in the differences in performance in a golf pro and his pupil on the driving tee.

6. Discriminating

Discrimination training is a procedure in which an organism is shaped to emit particular behaviors under appropriate circumstances to bring about specific results, i.e., reinforcement.

The procedure requires that the psychologist present various stimuli. In the presence of certain stimuli the organism's behavior is reinforced. In the presence of other stimuli its behavior is not reinforced. A stimulus in whose presence a particular kind of behavior is reinforced is called a discriminative stimulus or S - dee. Negative stimuli, or stimuli in whose presence behavior will not be reinforced, are called S - deltas.

The presentation of negative stimuli is a refinement of procedure to bring the organism under the control of a narrow range of stimuli. If, for example, a red light is used as the discriminative stimulus without presenting another colored light as a negative stimulus, the organism might respond in the presence of any focused light. Even without the deliberate introduction of negative stimuli, however, the organism must discriminate between S - dee and S - deltas. Room light, temperature, noise, etc. may all be negative stimuli.

A familiar example in discrimination training may be found in traffic lights. People with normal color vision respond to red and green lights as stop and go signals. Those individuals who are color-blind for red and green depend on the relative position of the lights for information.

It is not necessary for the stimulus to have any real causal relationship to the consequence which follows a response for it to control the frequency of emission of that response. It is enough that the stimulus and response occur in a common environment. For example, the presence of a babbling brook doesn't insure a fisherman's success, but no experienced fisherman would fish in anything but water. The most experienced ones may be cued by a type of riffle, or sunken log, or overhanging bank, and respond by dropping a dry fly there for a possible strike. This is a learned behavior, not an instinctive one. A child in any society will learn from experienced individuals to differentiate among and respond appropriately to stimuli considered significant in that society. The anthropologist can discover what these stimuli are through observation.

7. Generalizing

Generalization is a procedure which establishes a class of phenomena within the organism's environment. Thorndike stated that "To any new situation man responds as he would to some situation like it, or like some element of it (Keller, 1954: 14). Generalization is closely related to discrimination. In the former, stimuli varying slightly act to control responding in a like manner, much as if these stimuli were identical. Of course, the more dissimilar the stimuli, the more likely that the organism will respond differently to them. In the case of discrimination, the organism learns to respond differentially in the presence of stimuli which vary to a greater or lesser degree from one another.

An organism's experiences are never identical. Among other things, experience is cumulative. An organism that has been reinforced twice for a response has a different history than one that has only been reinforced once. For that matter, the two organisms occupy different environments: a once - reinforcing environment contrasted to a twice - reinforcing environment.

Furthermore, even under laboratory conditions, things are never quite the same, if only that the rat must approach the pressing bar from a slightly different angle each time, perceiving the controlling stimulus in a slightly different way. The best that can be done in the most meticulous experiment is to develop a narrow range of controlling stimuli. All responses, therefore, have the character of generalization.

What is interesting to the anthropologist is the discovery of the particular classes of events that common experiences in a particular society has caused to be classed as equivalent. This is subject to observation and measurement. Much of what we call cultural flavor resides in the generalizations common to men in particular societies.

8. Pairing

Pairing is a procedure for broadening the range of discrimination of stimuli in relation to particular responses.

The introduction of a new controlling stimulus may be accomplished by simultaneously presenting the new stimulus along with another stimulus which already functions as a discriminative stimulus. Eventually both stimuli will function as discriminative stimuli. The introduction of a new maintaining consequence may be accomplished by simultaneously presenting the new consequence along with one previously established.

Pairing is of particular interest to anthropologists because the whole area of symbolic behavior is created by it. A child learns to speak through pairing. The concreteness of a child's pairing behavior is evident in his first words -- milk, mamma, doggie, and so forth, uttered in the presence of these significant portions of his environment. His parents are quick to reinforce what was hitherto neutral behavior, and establish for the child the existence of a phenomenological class. The human agency at work here is not significant if we consider the parents in the light of their being merely especially discriminated parts of the child's environment.

Pairing is related to what Keller calls secondary reinforcement (1954: 13). Given the appropriate conditions, including the physiological state of the organism, some stimuli have a "natural" capacity for reinforcement. These include food, drink, warmth, sex, company and other "primary" stimuli.

When a primary reinforcing stimulus is presented together with a neutral stimulus, the neutral stimulus may take on reinforcing characteristics of its own, and become a secondary reinforcer. Usually in human societies a baby is held and fed at the same time until it is weaned. Milk, a primary reinforcer, is associated with being held, to the point where being held is reinforcing in itself. It is possible that babies need more stimulation for healthy growth than they would get lying in a crib and being bottle fed. It is not evident, however, that this could not be supplied by other means. It is possible that need for attention is an acquired one based on secondary reinforcement.

9. Fading

In the fading procedure, control over responding is gradually transferred from one stimulus to another stimulus. In some cases, control which originally was exerted by two or more stimuli undergoes a change of locus so that now only one of these stimuli exerts control. For example, a particular response may have been originally conditioned to occur in the presence of stimuli X1, X2, X3,....Xn. By gradually reducing the strength of stimuli X2 through Xn, stimulus control comes to be exerted only by stimulus X1. This is a case of fading-out stimuli. Conversely, we may fade-in stimuli. Here, the stimuli are first introduced at very low strength. Stimulus strength is gradually increased until these new stimuli, through being paired with the original discriminative stimulus, come to exert control over behavior. Often, both fade-in and fade-out aspects occur simultaneously. Pairing is closely related to the fading-in procedures.

Fading as a behavior may be observed in the difference most people exhibit in reading silently compared to adding columns of figures silently. Lip movement while reading silently is minimal in most literate adults. However, the same individuals are likely to move their lips while adding numbers. A child first learns to speak, pairs the spoken work with the printed one while learning to read aloud, and finally learns to read silently. Lip movement required for audible verbal behavior is faded out in reading silently. Most people do not practice arithmetic additions to the point where the fading procedure is complete.

A psychologist who wishes to fade out a controlling stimulus which has been paired with another in the laboratory makes perception of the first stimulus more and more difficult while keeping the paired stimulus at a constant level. Often either visual or auditory stimuli are used with laboratory animals. Eventually it becomes impossible for the animal either to see or hear one of the stimuli, and the other becomes controlling.

Reinforcement may be faded out or delivered intermittently rather than be contingent on each response of the organism. When faded out completely, this is known as extinction.

Anthropologists are familiar with this procedure in the cultural problems attendant on different weaning practices, different behaviors required of individuals after puberty rites, and so on. Sometimes other procedures, particularly that of extinction, accompany changes in culturally approved behavior for individuals in different status positions.

10. Extinguishing

The procedure, usually called extinction, requires unlearning a previously learned behavior. Once a behavior has been established, the experimenter may wish to eliminate it from his subject's repertoire. This is done by withholding reinforcement for behavior which has been reinforced in the past under identical or similar stimulus situations. No matter how hard or long the subject works there is no pay-off. Eventually it will stop emitting the behavior.

One must not confuse extinction with forgetting. If an organism does not have an opportunity to make an appropriate response, because the controlling stimulus is not presented, that response may be emitted in some random fashion as if it were neutral from the point-of-view of its history of conditioning. If the controlling stimulus is presented after a period sufficient to reduce that response to a random frequency, very little time may be needed to bring the rate up to former levels. If the controlling stimulus is presented after extinction has been completed, however, that response remains random unless reshaping is instituted.

Punishment which follows a response previously followed by positive reinforcement is not an extinguishing procedure alone. Withholding reinforcement will result in extinction, but the procedure is hastened by the introduction of a punishing or aversive stimulus, which has been paired with, or substituted directly for the old one. A child weaned by covering the mother's breast with a bitter substance has undergone not only extinction, but reshaping. His new response is to avoid the breast.

The cultural practices by which new behaviors are induced in individuals entering new status positions sometimes require actions incompatible with previously established ones. What is appropriate behavior for a child is not always acceptable in an adult. The tolerance with which a society may view the struggles of a child to approximate correct adult behavior is often not extended to an adult. All of this is available to the anthropologist through traditional research techniques. A new importance relates to the learning situation, however, given this new frame of reference.

Summary

Operant psychology rests on these general principles:

1. Man is a natural animal subject to the operation of the laws of nature.

2. The proper approach to the study of psychological phenomena is through observation of single organisms.

3. It is possible to make valid observations only where measurement is possible.

The one major premise of operant psychology is: If a particular response is emitted by a single organism in the presence of a stimulus and is followed by a reinforcing consequence, the probability of that behavior being emitted again in the presence of that stimulus is raised or lowered depending on the nature of the consequence.

The ten procedures whose application characterize operant psychology are:

1. Depriving is the procedure by which an organism's physiological state is altered by limiting its access to some accustomed part of its environment, such as food or water.

2. Satiating is the procedure by which an organism's physiological state is altered by permitting unlimited access to some accustomed part of its environment, such as food or water.

3. Adapting is the procedure by which an organism is accustomed to the presence of novel stimuli.

4. Shaping is the procedure for changing the rate of an organism's specific behavior under particular conditions through differential reinforcement.

5. Chaining is the procedure by which successive behaviors are established in the organism's repertoire and subsequently reinforced.

6. Discrimination training is the procedure by which an organism is shaped to emit particular behaviors under appropriate circumstances to bring about certain results.

7. Generalizing is the procedure which establishes a class of phenomena within the organism's environment.

8. Pairing is the procedure for broadening the range of stimuli which control an organism's particular responses.

9. Fading is the procedure which gradually weakens or strengthens one of a number of simultaneously presented stimuli which control the emission of an operant.

10. Extinguishing is the procedure for unlearning behavior by withholding reinforcement.

Discussion

Objections to the approach of operant psychology are rooted in the Cartesian concept of body-mind dualism. This was first explicitly stated by Noam Chomsky (1959: 26-58) in his critical review of B. F. Skinner's book, Verbal Behavior,(1957). Chomsky has reiterated his stand in a recent article in the Columbia Forum (1968). This is not new, of course. Skinner relates a discussion he had in 1934 with Alfred North Whitehead in which Whitehead finally "...agreed that science might be successful in accounting for human behavior provided one made an exception of verbal behavior (1957: 456-7)."

Anthropologists have been saying much the same thing for some time. Despite the differences among anthropologists in other theoretical commitments, most of them would agree that culture rests on man's unique ability to symbolize. We have, therefore, the example of Leslie White stating: "Human behavior constitutes a class of events and as such is distinguished from other classes, or kinds, of behavior such as simian, reptilian, plant, cellular, atomic, molecular, stellar, galactic, etc. Human behavior is confined to the genus Homo but is not coextensive with man's actions and reactions: human behavior and man-animal behavior are not synonymous. As we have already seen, only that portion of man's behavior which consists of or depends upon symboling may properly be called human; the rest is merely animal behavior (1949: 122)."

This quotation may be matched by one from David Bidney's writings: "...it is this ability to formulate concepts or symbols which renders him a semantic animal and enables him to engage in logical or rational processes of thought. While sharing with the rest of the animal kingdom the ability to perceive signs which have an immediate, pragmatic value with reference to a given situation, only man has the ability to conceive universal symbols or meanings and thereby to create a language by which to communicate the cumulative results of his experience and reflection. It is this symbolic function which has enabled man to create language and culture and has opened up for him a 'new dimension of reality' not available to the rest of the animal kingdom (1953: 3)."

Language, however, is an abstraction, not a phenomenon depending as it does on the behavior of two independent organisms. Speech on the other hand, is the behavior of a single organism. It has a physiological locus and occurs relative to a particular history of experience. There is nothing to prevent us from monitoring the speech of two organisms, or from measuring these behaviors separately, analyzing the patterns separately and alternately assigning the speakers roles as actors in environments depending upon the circumstances.

The interesting paper of Peter Marler on animal communication (1967: 769-774) states " ...clues to the occurrence of communication between two animals must be found in changes in the behavior of one upon its perception of a signal from the other." This seems very straight forward, but perhaps it misses the essence of the situation. If one views the situation from the point-of-view of the signaler, the environmental setting may or may not contain a receptor,

"Romeo, Romeo, wherefore art thou, Romeo?"

For our purposes, Romeo is a part of Juliet's environmental setting. If he had not been in the garden, eventually Juliet would have gone to bed and avoided unfortunate consequences. Her behavior would have gone unreinforced, and in the absence of that reinforcement, ceased. Romeo's reply was in itself a change in Juliet's environmental setting, a consequence that was reinforcing to Juliet, and one that kept her talking half the night.

Speech is learned like other behaviors, at first by single pairing with other stimuli, and later as complex or chained behavior.

Speech becomes a part of an individual's repertoire of behavior through making finer and finer discriminations through successive approximation. That part of its environment which shapes a child's speech behavior (it's family, primarily) differentially reinforces good against not good utterance. Words and objects or actions are paired. The child says "ball", "dog" or "milk" when the objects are in view after they have been presented together. Eventually, the word becomes a full substitute for the object, and may take its place. It does not have to be presented together with the word utterance each time thereafter for the word to be a symbol. The word and the thing are said to belong to the same stimulus class.

It is because words become paired with other stimuli, other consequences, even other behaviors, that they are important. Each society of men has a slightly different set of controlling stimuli which advertise possible consequences which are likely to follow particular behavior on the part of specific individuals in specified situation. Studying the words used as stimuli, as responses or as consequences, it is possible to learn something of the nature of those phenomena with which they have been paired. We must determine what the stimuli -- response-consequence sequence is for the society we are studying if we hope to initiate and mature a program of culture change.

Language is an abstraction based on the capacity of an organism, through speech, to manipulate that part of its environment composed of other organisms like itself, and to discriminate between stimuli occurring within its environment which take the form of speech. Some people talk to cats and some to trees and some to gods without receiving answers in speech, so communication, the interaction between two organisms utilizing the same speech behavior, is not the only use of speech. It would be inaccurate to suggest that we spend our lives talking to ourselves, however. It would be more correct to state that we talk from ourselves, and that repertoires of speech patterns are shaped and maintained by environmental consequences following speech behavior.

Let us assume, for example that a particular situation has a definite number of aspects, all of which are capable of being described in human speech. Any language will isolate a small percentage of these aspects and incorporate them into the structure of the language so that they must be covered for intelligible communication in that language. Time elapsed, number of language speakers present, eye witness reporting as opposed to hearsay, sex of speaker, and distance from speaker of significant events are all aspects emphasized in one language or another within the grammatical framework.

Language has in common with other forms of communication the factor that cueing through appropriate symbols may evoke larger areas of experience from which responses may occur. This does not suggest the presence of intervening or mediating variables, but the establishment of specific learned behaviors through the processes of pairing and fading, as pigeons can be taught to behave in the presence of one stimulus as if they were in the presence of another. So, for men, words are paired with action and belong in the same stimulus classes. Through fading out nonessential details a partial outline or cue may stand for a total detailed act as long as reinforcements are equivalent. In any total situation a number of different cues might be arbitrarily chosen to represent the totality.

Psychological experiments dealing with the shaping of random behavior through reinforcing consequence give us a mechanism capable of producing similar behavior in similar organisms through different cues or symbols or stimuli, depending on the language one wishes to use. Their meaning is the same. The point is that the difference is in the cues, not the behavior. And the behaviors are similar because they are dependent on similar reinforcements. This is the true meaning behind the statement that communication between any two organisms depends on the commonalities in their individual history of conditioning.

In any stable society the alternative behaviors for given persons in particular situations is limited. Therefore, the histories of experience found in any small community will be similar. Absolute commonality in experience is unlikely since no two organisms have identical genetic backgrounds or identical situations in which to have experiences. Identity and commonality are not the same. Commonality would include everything within arbitrary limits. It requires that the limits be set out so that any unique event which falls within the limits may be said to belong to that class of events within the limitations. Each event may still be described as a unique situation, and if the limits are changed, there is a possibility of a reclassification of the particular event. There is no way of avoiding abstractions of this nature, particularly when each organism uses the process in predicting results of his own behavior.

Communities store and share experiences in this way by putting them in symbolic form. Humans have the possibility of learning through the symbolic route the possible contingencies of behavior without necessarily experiencing that particular behavior at all. With literacy the alternate behaviors and contingencies of many communities are made available to the individual. The differences between the alternate behaviors available to a literate man in our society, and those of a pre-literate Australian aboriginee are enormous. The potential at birth may well be equivalent, but the separate histories of experience are very different. Behavior is adaptive to particular environments, physical and social, and the literate man has the alternatives required for broader experience than the aboriginee. It is no mystery why universal literacy is the first goal of any popular political reform movement.

Learning the possible contingencies of behavior in specific circumstances is called concept formation. Stated more fully, if an animal has been shaped to discriminate stimuli, and to emit appropriate behavior in the presence of specific stimuli in order to effect some specific change in its environment, we may state that the organism has formed a concept that relates stimulus events preceeding the behavior to consequences following the appropriate behavior. We need not refer this process to a mentalistic or intervening stage to describe its existence. We have no scientific evidence that there is anything in the learning process peculiar to humans because of their capacity for speech. The discovery of stimulus-consequence relationships is made by animals without this capacity.

What language does do for humans is to cut short the exploratory period usually required for concept formation. A human will still have to learn a specific behavior like any other animal, and being told about the experience, for instance, is not a substitute for the learning process. Learning to swim, or drive a car, requires more than a book of instructions.

Verbal behavior is real enough, in that it is real behavior. What must be guarded against is a one-to-one relationship between verbal and other behavior. Observation is necessary to determine what verbal patterns are related to in the real world. A statement, for example, that "There's nothing for kids to do in this town," may mean that there is nothing that an adolescent may do which would result in community approval. These relationships are understood by members of a society, and may be discovered by an outside observer if he understands the speech patterns so that he can work out the necessary correlations. Particularly, a field observer must be able to make the same kind of concept formation as members of the study community, given the same cues.

Since verbal behavior can be accounted for like other human behaviors within the framework of operant conditioning, objections to its application resting on the special nature of speech are invalid.

A second objection to operant psychology which has been advanced to the author by various critics is that it is merely "common sense." Boiling drinking water in the tropics is also merely common sense, but many people, lacking an appreciation of the germ theory of disease, drink their water as they find it. Perhaps after a particular behavior has been found to be effective and therefore widely practiced, it may be considered common sense. Since wise behavior has survival value, it is not extraordinary to find it widely spread. This line of reasoning, however, does not account for the equally widespread foolish behavior one encounters in all cultures.

Operant psychology can explain both wise and foolish behaviors equally well without reference to any special human condition. It can even predict that anthropologists previously reinforced for expressing incompatible views will continue to resist the use of this new tool.

Conclusions

Anthropology has not explored the possibility of adapting the procedures developed in operant psychology. These procedures are applicable to the collection of anthropological field data without marked changes in methodology.

The gain to anthropology in utilizing the procedures of operant psychology would be in the area of predictions and control of culture change. At present our procedures for guiding culture change are based on a social welfare approach: cure the immediate problem because the variables responsible for its appearance are beyond our knowing. The bad side effects of this undisciplined type of approach are well known. Love is not enough. An activist should be able to predict the end results of operational activity.

Since the procedures employed in operant psychology are well defined, and the techniques used capable of precise manipulation, prediction is possible in the laboratory. One behavior at a time may be brought under the operator's control and altered. Anthropologists have never been able to do this in field situations, and a mystique has grown up around the moral aspects of interference because of the sloppy results. This position is subject to reanalysis if a set of effective field procedures which would give predictable results were developed.

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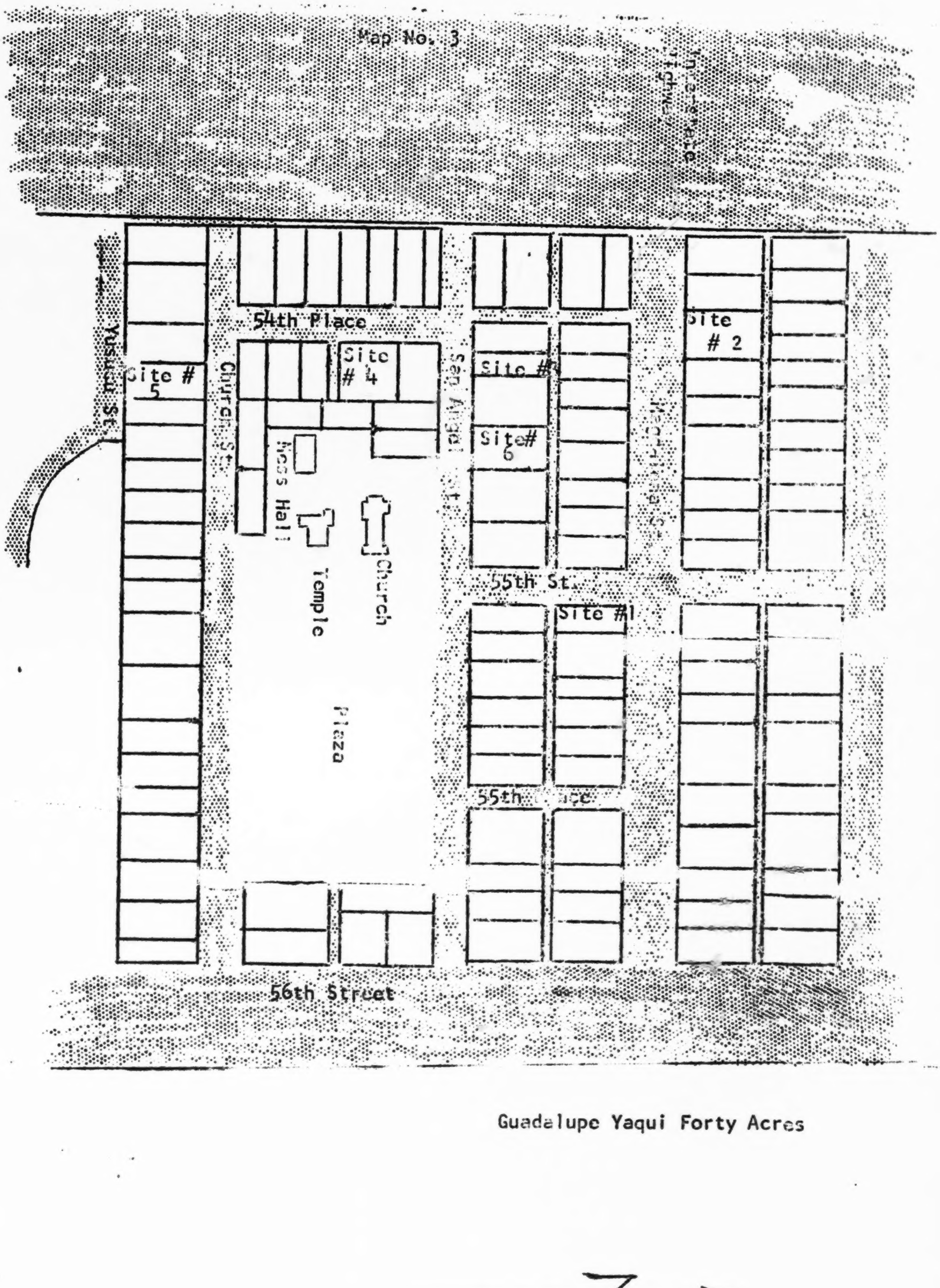


Map No. 3
Inter-state Highway
54th Place
Yusuri St
Church St.
San Angel St.
Magdalena St.
Site # 5
Site # 4
Site #
Site # 6
Site # 2
Site #1
Mess Hall
Temple
Church
Plaza
55th St.
55th Place
56th Street

Guadalupe Yaqui Forty Acres

APPENDIX B

House Construction in Guadalupe

by

William L. Simpson

Statement of the problem in specific terms. The portion of the research reported in this paper concerns the activity of repairing and building houses. The people had expressed a desire for better housing and had said that if they had the materials, the men would work to improve this very bad situation. The specific problem set in this portion of the research was:

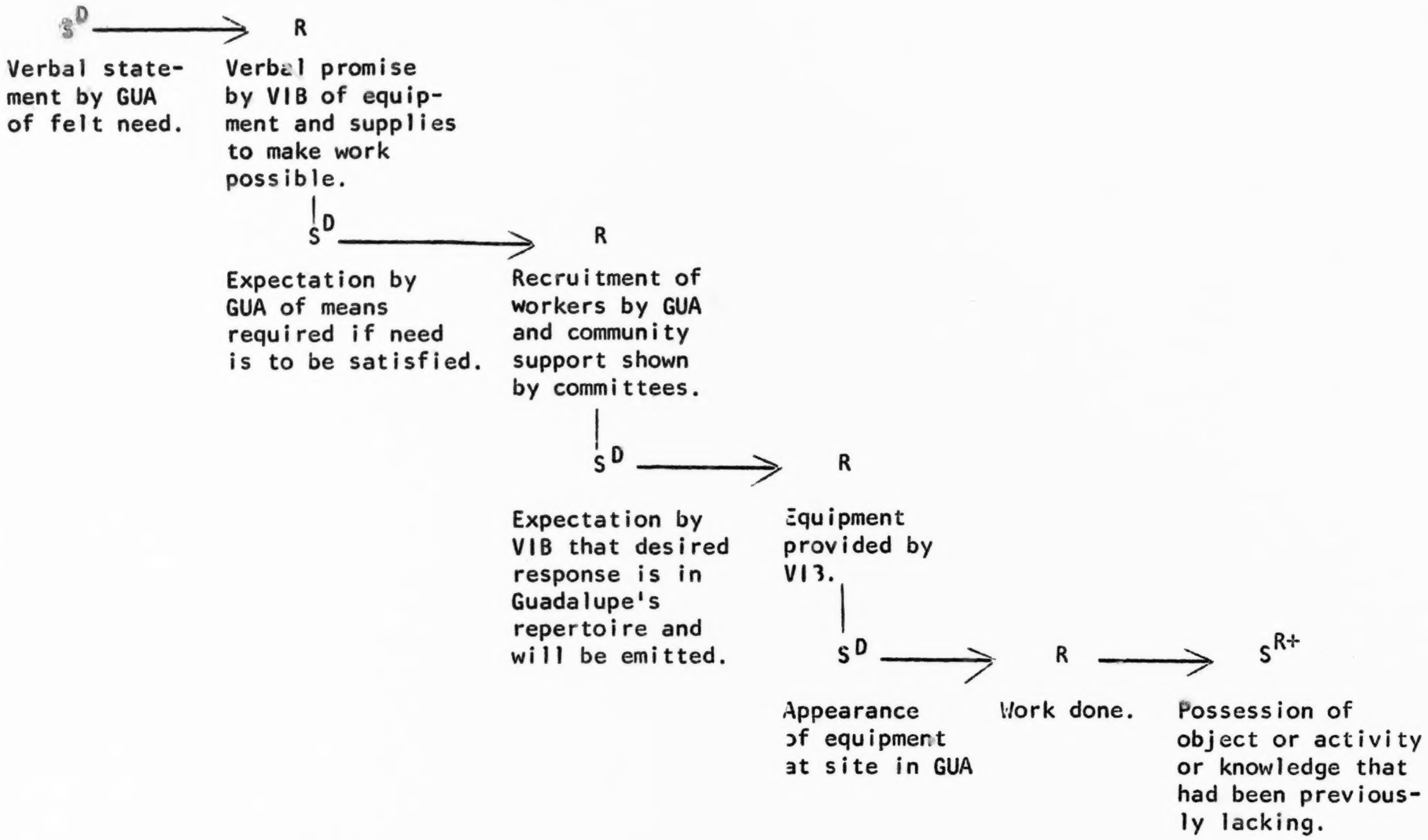
> Upon verbal statement of a need and positive evidence of recruitment of workers, the V.I.B. will provide the necessary means to repair or build adobe houses on lots chosen by representatives of Guadalupe. A member of the V.I.B. research team is authorized to follow an operant paradigm to get the activity going, to enter into the activity if necessary, but eventually to fade out any participation he had to take, and if possible, to leave the community with a continuing activity they had not had before. Data will record what the expected behaviors were under various environmental situations, what the permitted deviations and the condemned deviations seemed to be, what things changed when conditions changed, what things acted as effective stimuli and reinforcers. Variables under control of the V.I.B. are supplies, leadership, social reinforcement, and possibly others that appear during the course of the experiment. The problem is to make a record of what happens when these variables are experimentally manipulated, and to note the

effect of variables not under the control of the V.I.B. on the behavior of a number of subjects who volunteer to work on a building program, -- a record adequate for analysis and conclusions in answer to the question of whether or not lack of means and materials only was the primary condition under which no activity in building in Guadalupe occurred. If not, what other variables do exert a strong effect on building behavior?

In the above paragraph, an attempt was made to state the problem as a behavioral objective itself, to put the question in such terms that it was possible for the data to supply an answer. The problem of probing for significant variables by means of observing behavior on a house building program was stated in terms of specific tasks the investigator had to accomplish, and items of data he had to record as a basis for analysis and conclusions.

Research design to guide activities. An operant paradigm, followed in starting all project activities, was that of a chain interaction. On the following page the interaction is described in symbols and the symbols related to the specific actions performed in the present research.

The statement of the problem also specified that if the V.I.B. research man had to enter into the activity in any way other than that of arranging the necessary means, he should fade out his participation and leave an activity going on without him. This involves the operant technique of pairing a substitute with the original, then fading out the original. In the case of the building program, the V.I.B. man could have been entering into any of the elements of the operant paradigm, as discriminative stimulus for work to start, as an example response of work done, or as a provider of reinforcement.



S^D → R

Verbal statement by GUA of felt need. → Verbal promise by VIB of equipment and supplies to make work possible.

S^D → R

Expectation by GUA of means required if need is to be satisfied. → Recruitment of workers by GUA and community support shown by committees.

S^D → R

Expectation by VIB that desired response is in Guadalupe's repertoire and will be emitted. → Equipment provided by VIB.

S^D → R → S^{R+}

Appearance of equipment at site in GUA → Work done. → Possession of object or activity or knowledge that had been previously lacking.

Note: It is understood that included in the set of conditions for which the symbol S^D stands, are the instructions a subject is giving himself as a result of his past history of experience. For example, in the expectation by Guadalupe people that the means will be provided, one element is their past experience that promises made by VIB personnel will be kept even though some delay might occur.

Study population. This report covers the work record of fourteen volunteers in the building program. These fourteen were the most steady of the thirty-two men who, at one time or another, joined in on the work. Four others are mentioned because of their close connection with some aspect of the program. The kinship chart shows that fifteen of these eighteen men were closely related by blood ties or marriage.

Equipment. The V.I.B. provided the following necessary items for building activity to occur:

Brick press (forms adobe bricks 9 x 15 x 5".) See picture #1
Cement mixer.
Sifting screen and trough.
Wheelbarrows, shovels, picks, levels, etc.
Cement)
Caliche soil from desert) mixture 1 to 5.
Gasoline for truck and mixer
Truck when needed for hauling.
Wood for foundation forms.
Wood beams and roofing material for "mess hall".
Materials for house roofs, doors and windows made available from salvage of three condemned houses, or would be purchased when necessary.
Electricity (fuse box, poles, etc.) for machines.
Water from nearby houses.

Process of making bricks. Making adobe bricks required a minimum crew of four men, a maximum of seven or eight. The process had five steps; sifting dirt and hauling it to cement mixer, running mixer, hauling mix to press and pouring it into forms, running brick machine, taking bricks from machine and stacking them. A hierarchy of jobs developed. Only four men ever learned or would take responsibility for running the brick machine; one particular man ran it almost exclusively. Next in importance seemed to be removing and stacking finished bricks. Least desirable was the sifting job. There were times when a wino passing by was hired to do this for a bottle of wine.

Division of work. After an initial trial, shifting from one job to another, each individual took on one particular task and fitted himself into this accustomed niche in the work process. The result was a fairly smooth running operation with no one "bossing" it. This was true also when the task was that of laying adobes to form a wall and constructing a house. Laying adobes, especially laying the corners, was considered a specialized job and only a few of the most skilled and confident of the men would take this responsibility. Actually it is not that difficult; anyone can do it, and can do it unassisted if necessary. Making adobes did require a minimum crew.

Sites for houses. Three house sites were chosen by the original "Jones Home Organization" committee. V.I.B. representatives took no part in this decision, nor in the recruitment of the committee, its election of officers and choice of a name.

All three sites were on the Forty Acres. Kinship chart shows that all three went to members of one extended family, even though the commitee was made up of officers and delegates and its meeting attracted an attendance of fifty people - supposedly a cross-section of Guadalupe.

Foundations were laid at these three sites by young men working for $1.25 an hour on the government-sponsored Neighborhood Youth Corps during the summer of 1965.

Foundations were later laid at three more sites belonging to men working voluntarily on the brick machine crew. These three men were the the only ones, of the total of thirty-two workers, who took advantage of this opportunity to build a house for themselves. Two others mapped out and measured for foundations but got no further.

On the accompanying map of Guadalupe Forty Acres, all sites are marked.

Site for the "mess hall". A site for a Yaqui community building was chosen in back of the Yaqui temple on land that had been used for public fiestas ever since Guadalupe was laid out. The project was started as a result of recurrent expression of a need for a place to meet, to fix food, etc., in connection with Yaqui ceremonial activities. It was always referred to as a "mess hall". Actual work was started by a very informally organized group of the men who had been working on the brick crew and on building their own houses. The group was later incorporated as the Guadalupe Yaqui Home Improvement Organization.

The first site chosen proved to be on land that, due to an error at the Court House, could be claimed as under private ownership. A foundation was laid but had to be abandoned. A second site was agreed on, lying adjacent to the first, and construction proceeded.

Location of brick machine. The owner of Site #2 had offered his yard as a location for the brick making operation. After some 2,000 bricks had been made, serious dissatisfaction and tension arose because it became apparent that this owner had assumed all the adobes would belong to him and he opposed any removal of a stock of them to start laying walls on the other two of the three original foundations. Also, this owner had done too little himself for the others to feel that he had a legitimate claim to further work on their part. If he wouldn't work on his own house, they couldn't expect him to do reciprocal work on theirs.

As a result, the whole operation was moved to Site #4 . The owner here said anyone could make bricks who wanted to. This site was much more prominently located for people to pass by and see what was going one.

REPORT ON DATA

The research design called for the V.I.B. to provide materials and get building activity going, then manipulate the variables it could control (materials, leadership and social reinforcement), and record results.

Conditions. In September of 1965 the brick press had been constructed and demonstrated, three foundations laid and all materials were available. The Guadalupe committee had previously said that men were ready to work, and a group had recently met and asked for written permission to use the materials. In October three of the men attempted to start the machine but a crack developed in it and they did not go on. This was repaired, but they did not try again. In November and December there was an interval of heavy seasonal field work and many fiestas including the major Virgin of Guadalupe ceremonial season.

Procedure. Simpson made three bricks with the machine and left them on display. He kept in constant touch with the community on other activities.

Results. No brick making behavior started, under conditions of the V.I.B providing materials alone.

Conditions. In January, 1966, materials still available. Slack work season.

Procedure. Simpson put himself into the interaction paradigm as responder and ran the machine operation alone except for one helper, the owner of Site 3.

Results. During the week four others worked regularly for about two-hour sessions, and fifteen others dropped by and helped. A son of the owner of Site #1 learned to run the machine and took over that job. Simpson had succeeded in pairing a local with himself in the key work position and could fade himself out from that particular spot.

Conditions. Spring, 1966, materials available. Some field work opening up and the major Easter ceremony season. During 27-day period from April 28th to June 4th there were nine household fiestas that claimed seventeen days for their performance. (See attached list.)

Procedure. During the spring months Simpson went to Guadalupe on an uncertain schedule of days and at different times of the day. He also gave two different men money to buy supplies at times, and gave them encouragement to go on with the work without him.

Results. When Simpson arrived in the early evening hours, he found men waiting for him. In only two instances did they start the machine until he was present. In those cases, one of the two men did get the others to work by picking them up in his car, to get together. Sometimes it was obvious that sifting dirt or small clean-up jobs had been started shortly before his arrival. Simpson found he was putting himself into the interaction paradigm as an S^D, - one of the conditions under which a work response would occur and could be reinforced by the growing stock of adobe bricks. Other conditions were time of day, conflicting activities that took the men's time and energy. Only three work sessions occurred in April and three in May. Materials periodically ran out and delayed work. No one took on the job of scheduling work, ordering materials ahead or suggesting more efficient working procedures.

Conditions. Materials available. Few conflicting activities.

Procedure. During the month of June, Simpson appeared at the site every day in the late afternoon. He also entered the paradigm as a provider of immediate reinforcement, a social get-together with two six-packs of beer after every work session.

Results. A smooth-working constant crew. The men treated this activity exactly like fiesta activity, with no one actively taking charge or giving orders, but an authority figure or "leader" was in place and everyone else went about his accustomed job and made a reasonable effort to be there. A total of 2,000 bricks accumulated. The owner of Site #2 worked for very short periods then went in the house. Others a little dissatisfied about this. The two sons of the owner of Site #1 worked constantly; owner of Site #3 on and off.

Conditions. Same.

Procedure. In July Simpson withdrew himself from the paradigm as an S^D for work to start. He kept in touch at social occasions and other activities but did not appear regularly at the work site.

Result. Men worked on only two days in July and none in August. Conflict also arose over distribution of bricks. The owner of Site #2 who had offered space for the brick machine now assumed all bricks belonged to him. No one took on the job of settling it. The only response to conflict was decrease in work to almost nothing, and a number of "committee meetings" called at night. These were attended by varying numbers of the men who had been working. No appeal was made to elders in the community or to any other society or institution or authority. The final result of the controversy was that in September the men who thought they had a claim to a share of the stock of bricks took them over the protests of the owner of Site #2. It also resulted in the men later finding a new location for the brick operation.

Conditions. September 1966. No problems had been solved in Simpson's August absence. Enough adobes were on hand for one large house and two small ones. A steady crew and several alternates had acquired a history of experience in operating the machine and making a large number of bricks.

A new behavior was not required - that of laying adobes. Most of the men felt incompetent at this job. News came of a building operation for Yaquis in Tucson in which the men received pay for working. The owner of Site #2 claimed that brick laying had to be done by an expert and should be hired work. He refused to work on his own house or let his two grown sons help.

Procedure. Simpson continued hands-off period, except for two occasions when he tested the situation to see if his entering in would start activity. Simpson did provide truck for hauling some adobes to Sites #1 and #3.

Results. On the two test occasions the work immediately started up again and more bricks were made. Without his participation, no work. The owner of Site #2 and his wife stayed in the house if Simpson's truck appeared but would not let anyone else remove adobes.

Owner of Site #2 got a semi-professional brick layer (an old man) to start his house and promised him pay without V.I.B. authorizing it. It is not known if he was paid. He did not work long.

Open disagreement arose between this owner and the others. Committee meetings again called several times. No action, but much conversation about finding a new location for the machine.

Conditions. November 1966. Same. No building activity at Sites # 1 and 3 though bricks were there and foundations ready.

Procedure. Simpson entered paradigm as responder and laid a few adobes at Site #3.

Results. The same man who had learned to operate machine (a son of Site #1) immediately worked with Simpson on laying bricks. Owner of Site 3 began to work and Simpson faded out his participation. (This owner stopped two months later when a widower uncle got a nicer house and let him and his wife move in with him.)

Son of Site 1 now started his father's house alone but his father was dissatisfied with his laying of corners and he stopped.

Work continued at Site 2 with two volunteers seeming to decide that this house should be finished now that it was started. (They eventually became disgusted with lack of cooperation of owner and left the walls seven adobes short of completion.)

Conditions. December, 1966. Virgin of Guadalupe fiesta season and heavy seasonal work, bad weather. No work done.

Conditions. January, 1967. Subject of a community building or "mess hall" was brought up again (first discussed in February, 1966). Committee meeting was called with several elders consulted and invited; two came, one of these was President of Virgin of Guadalupe Society. V.I.B. presented a model of a hall and offered materials and food for workers if committee would provide site, leadership, women to cook and men to work. V.I.B. still had to act as if charge of meeting; all others sat back but freely entered discussion.

Results. No action; this was the only meeting. Sporadic building activity at Sites 1 and 2.

Conditions. February. Machine moved to new location at Site 4. Owner of Site 4 said anyone could make adobes here. Site close to plaza and in full view of people going by.

Procedure. Simpson made regular trips to Guadalupe but acted entirely as spectator.

Results. Simpson was able to let owner of Site 4 replace him entirely as an S^D for work sessions to begin. At the new location, twice as many men regularly worked, they were a younger age group, had more enthusiasm. Improvements were installed such as lights to work at night, conveyer trough for moving dirt, etc. The crew worked longer hours. Almost 400 adobes were made the first two days. The total eventually reached more than 4,500. Two separate centers of activity developed with different men working at Site 2 and Site 4.

Conditions. Spring, 1967. Work stopped during fiesta season.

Conditions. April, 1967. One thousand bricks stacked in public view attracted attention welcomed by owner of Site 4.

Results. Owner of Site 4 laid out very large house and planned walls double thick, using twice as many bricks as others did. Three others began laying out foundations. One of these was the most constant worker, the man who had first learned to run the machine.

Conditions. May, 1967. Owner of Site 4 wants to make bricks to sell, and to form a permanent committee to work on this. He also appeared at work sessions much fewer times.

Results. Other men talk against owner of Site 4, "too bossy", "drinking too much," "all talk and not enough work," "showing off with such a big house," "not getting on fast enough," "careless with equipment and breaks too many finished bricks."

Conditions. June, 1967. Meeting called by Simpson to warn of approaching end of V.I.B. project and of need for permanent committee to take over. Simpson then turned the meeting over to an officer. This man took complete charge of meeting, the first time a local man had done so. One of the elders picked a site for the mess hall. Easter First Captain approved of a hall but said he cannot get a work crew from his society. After the fiesta he does not see "his" Fariseos until next year.

Results. Agreement reached without V.I.B. in charge, to start mess hall next day, and to have regular meetings each week.

Conditions. June, 1967. Mess hall stalemated by controversy over ownership of site, that had been picked by one of the elders and not further investigated. (This site and foundation later had to be abandoned.)

Procedure. Simpson appeared at meetings and at site but did no work,

Results. Work sessions and regular meetings continued. Total of bricks made during month was 1,285, could be made about one per minute. Foundations started on Sites 5 and 6 by owners on their own initiative. Weekly meetings discuss rules limiting size of houses, and incorporation of committee. Officers elected were men new to the program. President was a brother of one of most active workers, but new himself; a very able man with five years successful army experience as corporal. He had been proposed by "good" Yaquis, men respected by the community, but they privately expressed a little doubt about him because he was a bachelor and not considered a fully responsible adult, -- "not married and drinks too much."

Conditions. Summer, 1967. Work continuing on the three more houses. Four condemned houses were given by A.S.U. to the project to tear down for materials.

Procedure. Simpson provided truck for hauling salvage but took no part in scheduling or rule making.

Results. Crew of nine to fifteen men worked three months on demolition, with minimum tools. They worked as individuals, to take out particular items each wanted; occasionally helped each other or joined together on a roof or other big job. The crews filled time-limit and complete clearing requirements. A few used salvage immediately for additions or repairs to their houses. Others did small patching or nothing with the "loot." Committee exercised no control over distribution or stock piling for benefit of the whole group.

Conditions. Work continued through fall with all men working on their own projects, alone or in very small mutual help groups. A number of instances of disagreements and fights.

Results. Constant petty criticism of use of money provided for materials by V.I.B. and rumors about the project and its purposes and future.

Conditions. President of committee wne to Tucson for two months. Vice-President took over upon being properly notified by the president of his intended absence. Money handled without difficulty. Work continued on individual basis with occasional team work sessions stimulated by one particular officer, one of the two men who had worked so long on Site 2.

Results. Cooperative behavior and responsibility improving on a number of activities, especially care and repair of equipment.

Conditions. December, 1967. Fiesta and heavy work season.

Results. No work done. No committee meetings.

Conditions. January, 1968. President returned and found inventory and bank account in good order. Meetings resumed. Incorporation papers completed. Slack work season.

Procedure. Simpson entered paradigm as an S^D, using verbal behavior only. At a meeting on January 7th, at Simpson's Tempe address, he gave the eleven men present an ultimatum that unless work was produced on a mess hall by January 19th, the V.I.B. would end its activity on that date and cut off all further materials and funds.

Results. A new site was chosen next day and work immediately started on a foundation. Adobes were used from stock pile that the owner of Site 4 had let sit idle for months. One man hauled 20 tons of fill dirt in truck borrowed from his regular employer. By January 13th the foundation was finished and walls started. Walls were finished by January 20th. Four different men furnished a number of meals for the whole crew at their own expense. Materials appeared as gifts from the men from the old salvage, whenever an item was needed.

Conditions. New behavior and skill now required, -- putting on roof.

Procedure. Simpson continued hands-off and left them to solve own problems.

Results. Men took responsibility for planning, figuring and ordering roof, but had a very difficult time doing it. They also began to have one or two men sleep in the structure to protect materials from theft whenever anything valuable was sitting out in the open.

Roof was completed in March.

Conditions. April, 1968. Mess hall structure complete and usable but no finishing or furniture of any kind.

Results. First use was made of it as a shelter the community could offer the pascola dancers and musicians who were imported from Mexico for the Easter ceremonies. They preferred to stay there rather than in anyone's home as in the past.

Work progressing slowly on four of the six houses started.

Resume of Events

June 1964. Guadalupe representative said a storage area and workers were available. V.I.B. responded with materials donated by local construction firms. No workers appeared, and it turned out that the Guadalupe man had taken unilateral action and could not get others to follow his lead.

Fall and winter, 1964-65. Contacts maintained by V.I.B. through other activities and assistance with fiestas.

March 1965. Jones Home Organization formed, but first attempts by V.I.B. to get brick machine designed and constructed ran into difficulties and was delayed.

Summer 1965. Fifteen Neighborhood Youth Corps boys assigned by A.S.U. to the project. Combined classes in arithmetic and English with practical application measuring and laying out foundations for three houses.

September 1965. Foundations finished and brick machine and all supplies available at site #2. Written permission given to committee to proceed with work. No work done whatever.

Winter 1965. Fiestas and heavy seasonal field work.

December 3, 1965. Simpson made three demonstration bricks by himself. Attracted almost no attention. Bricks left on display.

December 4, 1965. Automobile accident killed most active and promising young man from Guadalupe committee.

January, 1966. Simpson and the owner of Site #3 started brick making operations. Four others immediately joined in. Two of the four were sons of the owner of Site #1. Fifteen others began to work occasionally. The owner of Site #2 where the machine was located appeared a few times but did very little actual work.

Spring, 1966. Sporadic short periods of work.

Summer, 1966. Cumulative total of 2,000 bricks made. Conflict arose over distribution.

September, 1966. House started at Site #2. (Work on it ceased June 1967, after walls were completed with only 7 adobes more to be laid, and with windows and doors in, no roof.)

September, 1966. House started at Site # 3. (Work on it ceased November 1966, after walls were up only 3 feet.)

October, 1966. House started at Site # 1. (Work ceased September 1967, after walls were up 4 to 5 feet. This may be finished.)

(Resume, Continued)

June - September 1967. Four condemned houses were torn down, one brick, one stucco, two frames in very poor condition. Materials went to individuals who tore down and removed items they wanted and took them home, almost looting behavior. Some co-operative work was done, as on roofs or other sections too big to handle alone. The crew was required to completely clear the site.

A truck checked out from A.S.U. hauled materials and dropped items off at different homes. The committee had recruited a demolition crew but exercised no control over distribution or keeping materials for a community stock-pile. Materials did appear as a gift from individuals when needed on mess hall.

Summer, 1967. House started at Site #4. Owner laid out very large house and laid walls double thickness, using twice as many bricks as others. (Work ceased during fall and winter, then stock of bricks that were lying there idle were removed and used for the mess hall.) Walls up to 3 to 4 feet.)

Summer, 1967. House started at Site #5. Work progressing slowly. Walls half done. Wife spent $60 for window frames. Will be finished.

October, 1967. House started at Site #6. Work progressing slowly. Walls almost finished. Will be finished.

January, 1968. Mess Hall started, 50 x 30' inside measurement. Construction now completed. Plastering and finishing to be done.

Other Constructions. Concrete mixer, some adobes and some salvage from three condemned houses that were demolished for materials, have been used for a garage, two additions to houses of a whole room, new floors, and a number of instances of patching damaged houses.

DISCUSSION OF THE DATA

Points of major change in building behavior occurred when any activity actually started, from a baseline of no activity; when the brick machine was moved to a new site; when a committee actually started functioning; and when the mess hall was started as a community or group effort and completed in three months.

In the first three years of the study one picture emerges, then this changes in the last year. At the start, presence of materials alone did not start activity. Only six men started houses and four are completing them. This seems to say that desire for a better house is not really strong enough to get work started, or perhaps the result is too far in the future. Variables that seem to have been operating were when the V.I.B. provided a leader who could be considered as taking the responsibility and who knew how to do the job (even though he did not keep the key job and did work at the most unobtrusive jobs), and when the activity had an immediate reinforcement in the sociability of working together and having some talk and a beer afterward.

It was very obvious that the leadership that did develop during the project sessions did not come either directly or indirectly from those who had a history of experience in leading the ceremonial acitivities. In comparing the personal data cards of the men who could get others to work, it seems that the following things are important, or showed up on each card:

A little cash in his pocket to buy small supplies or beer.
A car to provide transportation for the others.
A skill the others recognized for the particular job, --"He knows how to do it right."
A lack of aggressive or "pushy" behavior, "not bossy."
A reputation for being a "good Yaqui", which seems to mean a definite tendency toward keeping a Yaqui identity (rather than identifying with Anglo institutions), and a Yaqui level of living (which means using his resources to share with extended family or contribute to fiestas rather than building up a higher way of living for himself and his nuclear family). "He is a Yaqui like us." A steady job or higher living does not gain this community respect.

A leader of this kind is not necessarily a good foreman for the Salt River Project for instance. In fact some of these items might be incompatible behavior for things a good foreman would have to do, such as firing a kinsman.

Community pressure or public opinion is strong but does not seem to work in a constructive way, by Western standards. Heavy drinking is not only tolerated, it is almost necessary in the fiesta system. A great deal of slacking off is tolerated. There is grumbling about never finishing anything but no positive pressure to finish. One reason for not finishing on the building jobs observed in this study seemed to be when the job looked too big or the man did not feel competent in his ability to do it. He is almost expected to quit when he does not have an entirely adequate skill, as in the case of the men who tried to run the machine or to lay bricks. (The author noticed this when living in Guadalupe, even among the new generation of students who were studying for high school or college classes. Books and papers would be all out on the table but the student would just sit there, finally sigh and shrug, and eventually walk off. The next day he would passively fail in his class.)

A wide range of doing the work was tolerated, as can be seen by the story on the various site owners. The expected behavior was for each man to work for himself primarily but be available for mutual help when needed. There was a line at which behavior was condemned, however. The others criticezed a man if he failed to work for himself to a degree acceptable to the others. It was as if they thought they could not count on his helping them when the time came if he wouldn't work for himself. In other words the reciprocal obligations looked as if they would break down. In this case the others eventually left him to himself, as in the case of owners of Sites 2 and 4. Even though the amount of work these two did was very much apart, the others began to turn away when the owner did not do his expected share.

When the brick machine was moved, a number of conditions changed. Variables that seemed to operate were the open-handedness and acceptable leadership of the owner os Site 4, the much larger number of workers, the larger audience, and the increased enthusiasm of the group. This occurred without the V.I.B. participating in any way, so the men were beginning not to look to the V.I.B. for all the reinforcement. Under these conditions the long-range reinforcement of getting a house became more certain and three more foundations were laid.

When enough adobes had been made to build the house at Site 4 and the owner of Site 4 began to lose favor by falling below the acceptable standard of participation, the group activity broke up. Rather than working as a team on building any one house, each man began to work on his own. Bickering and fights also occurred.

The picture changed even more during the last months of the study. The V.I.B. man had been able to successfully pair others with himself in leadership positions and as providers of reinforcement. Previous to this time, whenever anything interfered with the activity, the response was to stop working almost entirely and hold informal "committee" meetings two or three times a week, but to almost no effect in solving the problem.

The last committee organized was a functioning body, and met regularly, and came to decisions on problems. Three different men eventually took an almost unheard-of position of standing up in front of the meeting and conducting it. In the end, a true group activity developed in constructing a community building, using a cooperating crew of workers, though one man took the primary responsibility for laying bricks. "He knew how to do it right."

During this experimental study it was demonstrated that an operant paradigm gives a good framework for a field study. With it the experimenter can see what he is doing and what is going on. He can vary his participation and see what actions have an effect and what ones do not.

The experiment as it was conducted was much too large in scope, but as a first effort to probe for variables in a free society, this was excusable. For the future, much narrower activities could be planned, fitting closely to an experimental design. For instance, answering the question of getting leadership behavior going and shaping it to ways that are socially desired (rather than gangs or drinking, etc.) immediately comes to attention from this data. The data that have been kept, open questions on every aspect of the behavior and the community that have been touched on in the present report.

The final accomplishment that came from the building program, a community building, turned out to be a real success. This is the first time the Yaqui have had any organization such as the functioning committee, or any building in Guadalupe under their complete control to do with as they want to. All institutions, and the building constructed by the GO organization sponsored by government funds, have always been entirely in the hands of Anglos, or possibly an occasional Mexican. The fact that they had a place, bare as it was, to turn over to their visiting pascola dancers was a most satisfying experience for the whole Yaqui community. Two men at the end were showing leadership ability and skill that could transfer over to civil importance. For it to do this however, a continuing opportunity must be supported from outside. Even though individuals were beginning to call on their own resources to some extent, the supply of personal resources is extremely limited, and the behavior of taking the initiative is very new.

List of Major Ceremonies in Guadalupe

February - April. Lent and Holy Week is the largest and most important ceremony in Guadalupe. Kontis (Way of the Cross) are usually held each Friday. The number participating increases as Easter Sunday comes near. Important days during the Lenten Season are: Ash Wednesday (the beginning of the ceremonies), Palm Sunday, Holy Wednesday, Maundy Thursday, Good Friday, Holy Saturday (climax of ceremony) and Easter Sunday (the final ceremony).

May 3. Day of Finding the Holy Cross - usually on the following weekend - has been held at the home of the Farisco Captain and supported by Farisco Society.

May 15. Fiesta of Flowers - a Mexican Fiesta.

June 24. Day of Saint John, celebrated in individual households with no public ceremony, and usually followed by a weekend of heavy drinking.

November 1-2. All Saints and All Souls Day, held in individual households.

December 12-13. Fiesta of our Lady of Guadalupe, Patron Saint - 2nd largest community fiesta.

Note: Several other fiestas are held in Mexico and are attended by individuals from Guadalupe:

Late May. Day of Holy Trinity at Potam.

June 24. Day of San Juan at Vicam.

July 1-2. Fiesta of the Camino in LaLoma de Bacum.

October 1-3. Day of St. Francis of Assisi at Magdalena.

	Age	Ceremonial Position	Income & Source	Education	Car	Living Conditions	Standing in Community	Outside Contacts	W.I.B. Contacts	Misc.
23NB-3 Mother: 23NB-1a Wife: 69E-2	45	Matachini dancer Helps with VofG fiesta	Low Welfare Gardaner	Gr.		Poor Has lived with relatives Owns a lot	A no-body Liked but called lazy Not taken very seriously	U.A.Army 1940, 6 Mo.	Started a house Baseball team Wife a member of J.H.O. Worker on proj. Not on committee but helps Son on N.Y.C.	Wife well liked, has many kin
38A-3 Mother: 22B-4 Wife: 3C-4	36	Matachini Fariseo	Low Welfare Farm labor	Gr.		Poor Old adobe house	A no-body Good worker	Limited	Machine operator for brick press Started a house	Blind in one eye Limps Interested in Yaqui history
63A-9 Mother: 63-A1 Wife: 40A-8	57	First Capt. of Fariseo Maestro	Steady work with SRP, but misses much because of Maestro duties		✓	Fair	Good only because of religious participation Disappointing because of lack of interest and help	Limited	Advisor because of being an elder and Capt. Advisor on Proj.	
23B-3 Mother 22B-1 Wife: 22B-3	68	Musician Helps with VofG fiesta	Retired from SRP Fair		✓	Good for community	Very good, respected Helps with work and advice	Limited	Long relationship with VIB on friendship basis Advisor on proj.	
38B-3	75	Pilato in Fariseos	Retired from farm labor	No sch		Fair	Respected	Limited	Advisor for committee Advisor on proj.	

	Age	Ceremonial Position	Income & Source	Education	Car	Living Conditions	Standing in Community	Outside Contacts	V.I.B. Contacts	Misc.
27D-13 Mother: 38B-2 Single	37	None	$90/wk Truck driver for farm labor	Hi	✓	Good, for community	Unknown, a nobody No participation in community Men like him, he has special skills	More than most US Army - 5 years	Educ. program Pres. of committee Worker of proj.	
71A-9 Mother 71A-1a Single	27	None	Fair Drives trk for farm labor	Some Hi	✓	Trailer house Lives alone	A no-body Men like him	Some, but limited	Worker on proj. and bookkeeper	Crippled
38B-5 Mother: 68B-2 Wife: 3F-4	43	None	Welfare	Some Gr.		Poor	A no-body Men like him	Limited	Worker on proj. Committee Baseball team Educ. program	Lost leg in farm accident
38B-9 Mother: 38B-2 Wife: 40C-2	26	None	Fair Gardener	Some Hi	✓	Fair Lives with father	A no-body Liked fairly well Considered young	More than most at work	Vice-Pres. of committee Worker on proj.	Speaks very good Eng.
38D-11 Wife: 70C-2	26	None	$3 - 4,000 per yr. Concrete worker Field work SRP	Some Hi	✓	Fair	Not too well liked by many Not "Yaqui" enough. Too pushy, independent	Mexican contacts far more than most	Baseball team Educ. program Worker on proj. Started a house	
70A-25 Mother: 70A-1a Wife: 62A-4	42	Pilato in Fariseos Helps with VofG fiesta	Low Field work	No sch		Poor	Drinks too much Respected for ceremonial work Men like him	Limited	Committee memb. Worker on proj. Started foundation	

	Age	Ceremonial Position	Income & Source	Education	Car	Living Conditions	Standing in Community	Outside Contacts	V.I.B. Contacts	Misc.
23C Wife: 22B-4	47	Second Capt. of Fariseo	Steady farm work	No sch		Poor	Respected, but does not lead as much as he should in his position	Limited	Worker on proj. Committee membr. Started a house	Studies for HiSch. degree at night classe
27D-3 Mother: 38B-2 Wife: 19A-4	40	Helps with VofG fiesta	$5 - 6,000 per yr. Steady work SRP	Gr	✓	Good, for community	Fair Not considered involved enough Week-end drunks A leader, men will follow him	More than most GO credit union 1964 US Army 1944, 6 mo.	Baseball team Educ. program JHO Sgt-at-arms Committee, Sec. Treas. Started a house Worked on proj.	
38B-23 Mother: 68B-2	40	None	Low Belongs to Union Concrete worker	Gr	✓	Fair Lives off the 40 Acres, but family lives on	A no-body Has useful skills	More than most UA Army 4 yrs in Germany	Worker on proj. Leader but not officer Brick layer on mess hall Started foundation	
38A-5 Mother: 22B-4 Wife:	29	Matachini Fariseo	Low Field work	Some Hi		Poor	A no-body Gets along, not important	Limited	Worker on Proj.	
3A-5 Mother: 3A-1 Wife: 23B-26	50	Pres. of Vof G Soc.	Low Field work	No sch		Poor	Not too well liked but involved in activities Has acted as elder to some men Considered selfish (won't help others)	Limtted GO credit union, 1964 Vincent de Paul	Vice-Pres. JHO Son on NYC Committee memb. Started a house Worked on proj.	

ACCUMULATIVE RECORD OF WORK PERFORMED IN HOUSE CONSTRUCTION

Workers	1966 Jan. 25	26	27	28	29	30	Feb. 14	15	16	17	18	19	20	April 23	24	30	May 1	30	31
23NB-3.	x	x	x	x	x	x		x	x	x	x			x	x				x
38-A-3		x	x	x	x	x		x	x	x	x		x	x	x	x	x	x	x
38-A-5		x				x			x	x									
3-A-5					x	x		x	x				x	x	x	x	x	x	x
27-A-3					x	x		x	x					x	x			x	x
38-A-7														x	x				
Other						x					x		x		x			x	x

	June 1	2	3	4	6	7	8	9	10	11	13	14	16	17	18	20	21	22	23	24	27	28
23NB-3	x		x			x			x			x				x		x			x	x
38A-3	x	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x
38A-5																						
3-A-5		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		
27-A-3							x			x	x	x					x					
38-A-7	x	x	x	x	x	x			x		x	x					x					
28-A-11	x	x	x	x	x	x	x			x		x		x	x		x		x	x		
70F-5		x	x									x										
38B-23				x																		
38A-9					x				x	x	x					x				x		
Other			x	x	x			x			x	x	x	x	x	x	x	x	x		x	x

1966 Continued

Workers	July		Sept.			Oct.					Nov.							
	9	17	5	8	18	15	21	24	28	31	11	14	15	17	18	19	20	21
23NB-3	x	x		x					x	x	x	x	x	x	x	x		
38A-3	x	x	x	x			x			x	x	x	x	x	x	x		x
38A-5																		
3A-5		x	x			x	x		x	x							x	
27A-3		x			x				x								x	
38A-7									x									
28A-11														x	x			
70F-5			x	x		x	x	x										
38B-23																		
38A-9																		
Other										x				x	x			

1967

Workers	Jan									Feb.								Mar.		April									
	6	7	13	15	24	25	26	30	31	1	5	7	18	19	25	26	27	4	7	1	8	13	14	23	24	25	26	27	30
23NB-3					x	x			x			x																	
38A-3	x	x	x	x	x	x	x	x	x			x	x	x						x			x	x	x		x	x	
38A-5																													
3A-5					x			x	x	x	x				x	x		x			x								
27A-3											x					x		x			x								
38A-7					x	x																							
28A-11																													
70F-5																													
38B-23																													
38A-9					x																								
38D-11													x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x
38B-3													x	x															
70A-25														x															
73E-1														x						x			x				x	x	
70A-1														x						x						x			
71A-9																											x	x	
Other	x			x	x	x	x		x				15	x				x	x	x	x		x	x		x	x	x	x

*Work on Site #2 for 2 weeks about Mar. 4th without Simpson

1967 Continued

Workers	May														June																
	2	3	4	12	13	21	23	24	25	26	27	28	29	30	1	4	5	6	8	11	15	16	19	21	22	25	26	27	28	29	30
23NB-3													x			x		x													
38A-3		x	x				x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x				x			x
38A-5																															
3A-5					x	x	x	x	x	x	x	x			x										x						
27A-3					x	x	x	x	x	x	x	x		x		x	x								x						
38A-7																															
28A-11																			x									x			
70F-5																															
38B-23								x	x	x	x	x	x	x		x	x	x			x	x									
38A-9																															
38D-11	x	x	x	x		x		x	x	x	x	x		x			x		x			x	x			x		x			
38B-3								x	x	x	x	x	x				x														
70A-25								x	x	x	x	x																			
37E-1		x																													
70A-1									x	x	x	x			x		x														
71A-9																	x		x												
38B-9	x	x						x	x	x	x	x	x	x			x											x			
27D-13										x	x	x	x									x									
23C-1														x	x				x												x
58C-1												x		x		x	x		x												
Other	x	x	x	x			x	x	x	x	x	x	x	x	x	x		x				x	x			x	x	x	x	x	

Workers	July																	
	1	6	7	9	12	14	20	21	22	23	24	25	26	27	28	29	30	31
23NB-3													x					
38A-3				x	x	x	x	x	x	x	x		x		x			
38A-5							x	x	x		x							
3A-5					x		x	x					x					
27A-3					x		x			x			x					

Workers	July Continued 1	6	7	9	12	14	20	21	22	23	24	25	26	27	28	29	30	31
38A-7																		
28A-11										x								
70F-5							x	x	x		x	x			x			
38B-23							x	x	x	x	x	x	x	x	x			
38A-9																		
38D-11	x	x	x															
38B-3																		
70A-25																		
37E-1							x	x										
70A-1							x	x		x			x		x			
71A-9																		
38B-9				x			x	x	x						x			
27D-13							x	x							x			
23C-1									x	x								
58C-1	x	x	x															
70A-5								x										
	x			x			x	x	x	x	x	x	x	x		x	x	x

most work done without Simpson

Workers	August														Sept.									
	1	2	3	4	5	6	10	11	12	13	17	18	19	27	2	10	14	15	19	20	21	28	29	30
23NB-3																								
38A-3		x	x	x	x	x	x	x	x	x					x		x	x						
38A-5																								
3A-5		?	?	?	?	?	?	?	?	x														
27A-3														x		x								
38A-7																								
28A-11																								
70F-5		x	?	?	?	?	?	?	?	?														
38B-23		x	x	x	x	x	x	x	x	x	x	x		x								x		
38A-9																								
38D-11										x					x									x
38B-3																								

Workers	Continued August														Sept.									
	1	2	3	4	5	6	10	11	12	13	17	18	19	27	2	10	14	15	19	20	21	28	29	30
70A-21		?	?	?	?	?	?	?	?	?			x	x										
37E-1		?	?	?	?	?	?	?	?	?														
70A-1	.	x	?	?	?	?	x	x	x	x														
71A-9		?																						
38B-9			x	?	?	?	?	?	?	?											x			
27D-13		x	?	x	x	x	x	?	x	x		x	x	x			x	x	x	x	x	x	x	x
23C-1		?	?	?	?	?	?	?	?	?														
58C-1		?	?	?	?	?	?	?	?	?														
70A-5		?	?	?	?	?	?	?	?	?														
38B-5		?	?	?	?	?	?	?	?	?														
Other	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

Simpson not present at most work sessions.

Aug. 18th room added. Sept. Cesspool foundation Sept. 10th Sept. 28- shower

Workers	Oct.												Nov.								Dec.
	1	2	6	11	12	13	14	15	16	17	26	27	11	15	16	17	18	19	25	26	10
23NB-3																					
38A-3	x		x					x			x	x	x	?	?			x	x	x	
38A-5																					
3A-5																					
27A-3	x	x	x	x			x	x	x	x			x					x	x	x	x
38A-7																					
28A-11																					
70F-5																					
38B-23						x					x	x	x	x			x				
38A-9																					
38D-11	x				x		x	x													
38B-3																					
70A-25					x																
37E-1																					
70A-12	x							x													
71A-9																					

Workers	Continued October 1967 1	2	6	11	12	13	14	15	16	17	26	27	Nov. 11	15	16	17	18	19	25	26	Dec. 10
38B-9								x													
27D-13			x			x	x														
23C-1							x	x					x								
58C-1																					
70A-5																					
38B-5													x								
Other	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	

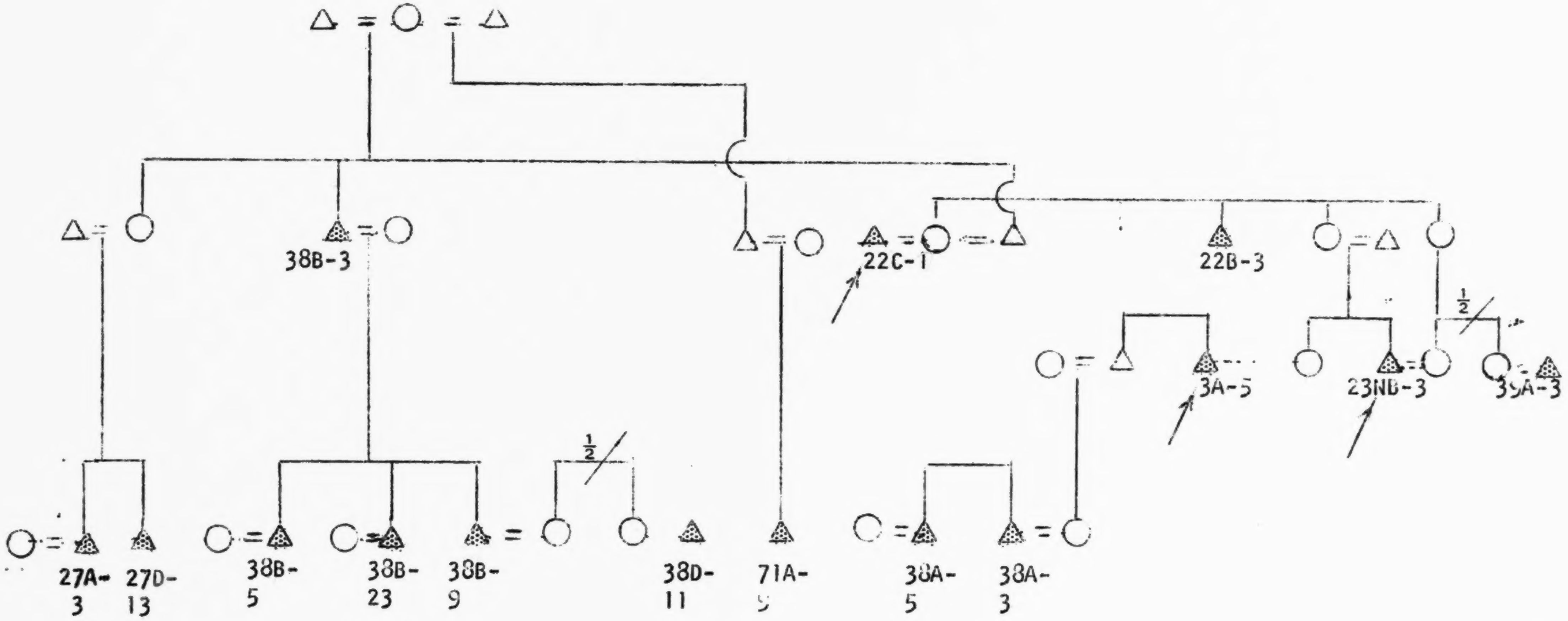
Workers	1968 Jan. 7	8	9	11	12	13	14	15	16	19	20	21	25	30	Feb. 3	4	6	11	12	25	27
23NB-3									x												
38B-3	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x	x		x
38A=5	x						x		x		x			x							x
3A-5	x					x	x		x		x	x		x	x						x
27A-3	x				x	x	x		x		x	x		x	x			x	x	x	x
38A-7																					
28A-11																					
70F-5									x		x										
38D-23	x	x	x	x		x	x		x		x	x		x	x			x	x		x
38A-9																					
38D-11			x				x				x										
38B-3	x					x	x	x	x		x	x		x							x
70A-25							x				x			x							
70A-1				x			x	x	x		x	x		x	x						x
71A-9	x					x			x		x	x		x							
38B-9			x				x		x		x	x		x	x						x
27D-13	x			x	x	x	x		x	x	x	x	x	x	x	x	x	x	x		x
23C-1									x		x			x							
58C-1					x				x												
38B-5	x			x		x	x	x	x		x	x		x	x						x
23L-1							x		x		x	x		x	x						
Other	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

constant work each day from 7th through 30th without Simpson. 4 to 25 me

Workers	1968 Mar. 1	2	3	10	11	16	17	23	24	26
23NB-3									x	
38A-3	x	x	x	x	x	x	x	x	x	
38A-5							x			
3A-5			x		?	?	x	x	x	
27D-3			x		?	?	x	x	x	
38B-23			x	x	x	x	x	x	x	x
38B-3			x				x	x	x	
70A-1			x	?	?	x	x	x		
71A-9			x	?	?	x	x	x		
38B-9			x	?	?		x	x	x	
27D-13	x	x	x	x	x		x	x	x	
38B-5				?	?	x	x	x	x	x
23L-1				x	x	x	x	x	x	x
Others			x	x	x	x	x	x	x	x

Much work without Simpson

Kin relationships between 15 most active men in the building program.


38B-3
22C-1
22B-3
3A-5
23NB-3
39A-3
½
½
27A-3
27D-13
38B-5
38B-23
38B-9
38D-11
71A-9
38A-5
38A-3

Dark triangles indicate men who volunteered for the building program.

Arrows indicate the three sites assigned by the committee originally.